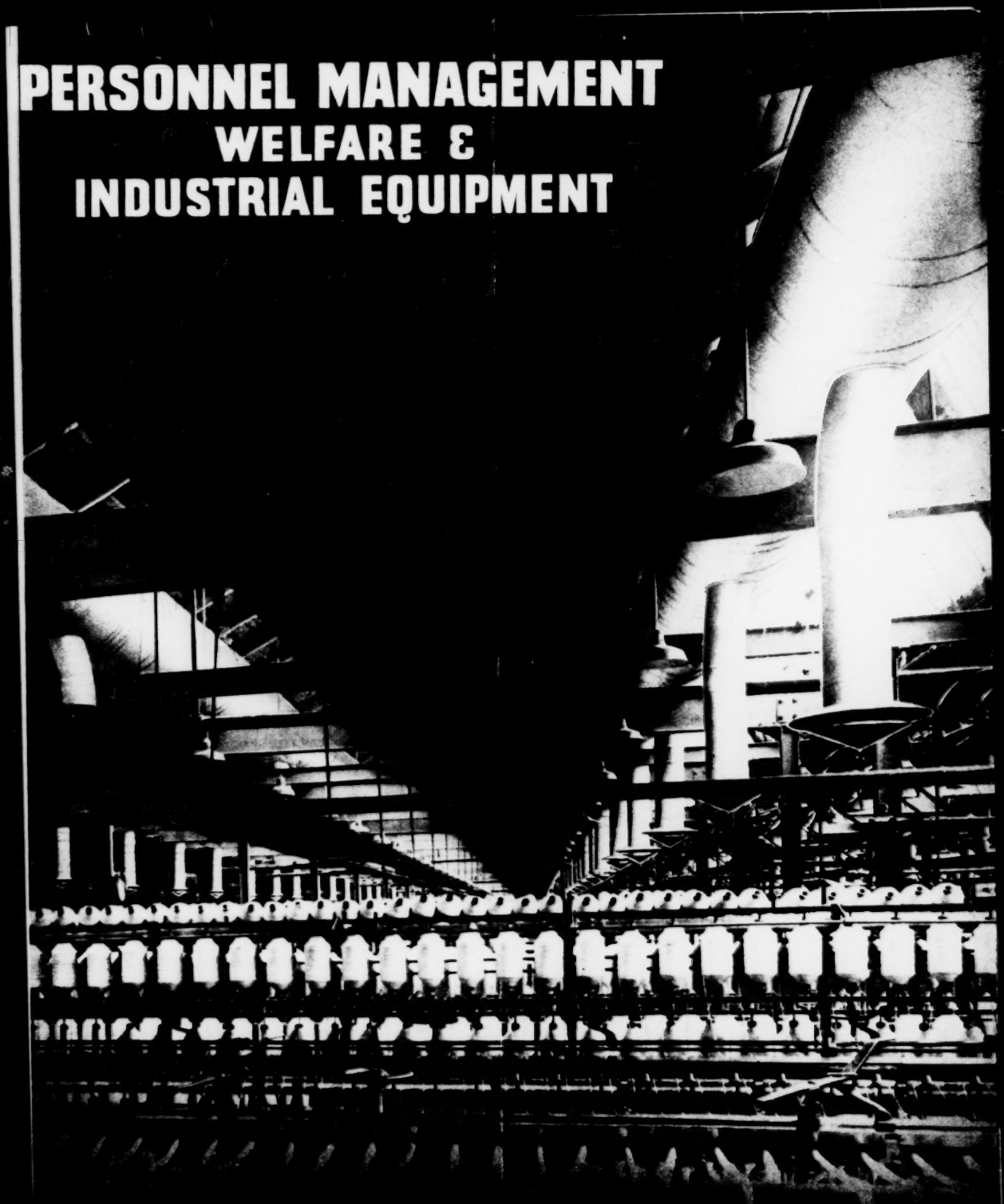
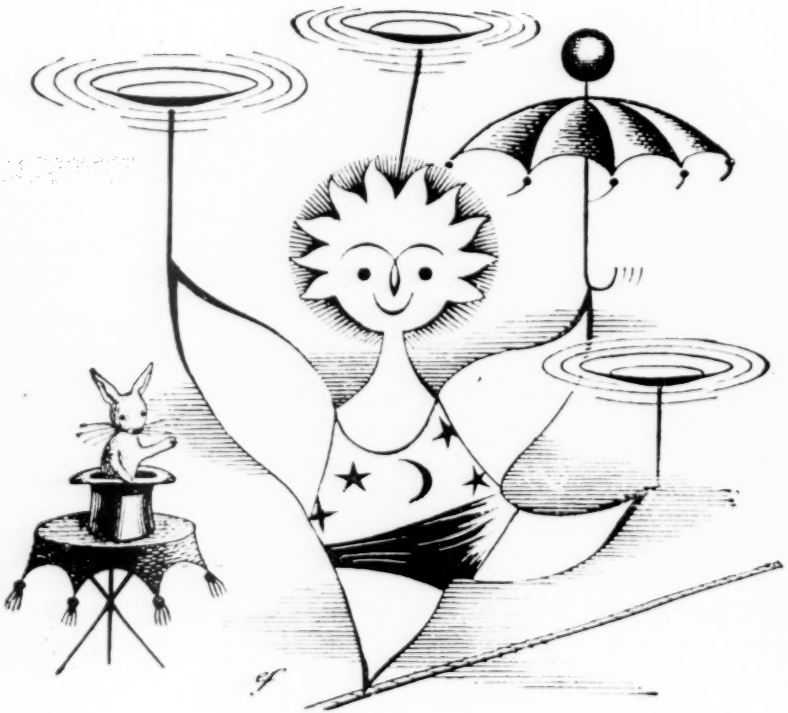
PERSONNEL MANAGEMENT
WELFARE & INDUSTRIAL EQUIPMENT



COVER STORY: Air Conditioning Boosts Output



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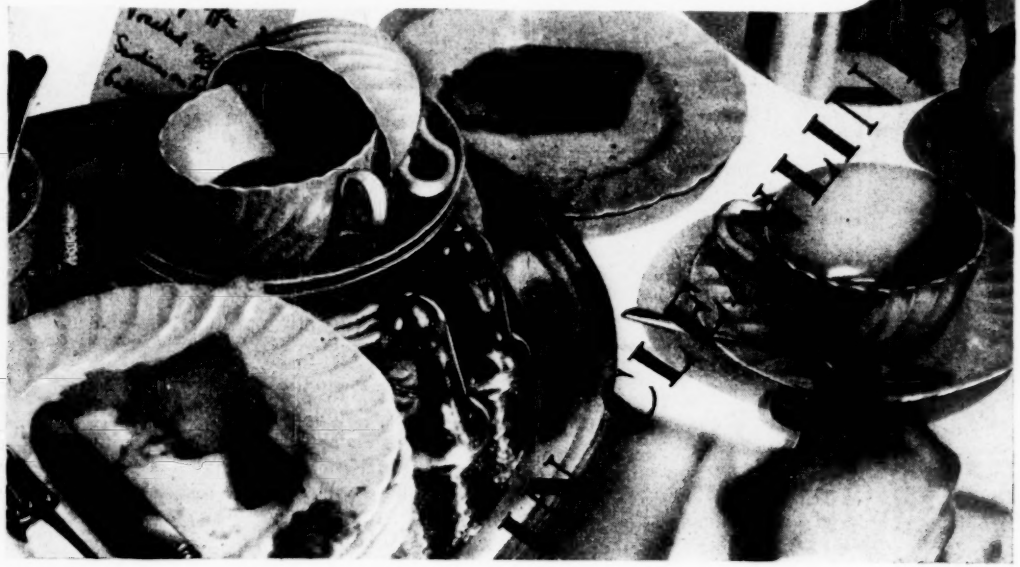
ALL CHINA & CUTLERY IN THIS ESTABLISHMENT WILL COME BACK TO THE TABLE CHEMICALLY CLEAN



will yours?

To look clean is one thing, to be chemically clean is quite another. China and cutlery can be made sterile as well as sparkling—quickly—with Chinabrite. Prepared specially for the Catering trade, it is suitable for machine or hand washing-up, saving time trouble and preventing infection. A trial will convince you.

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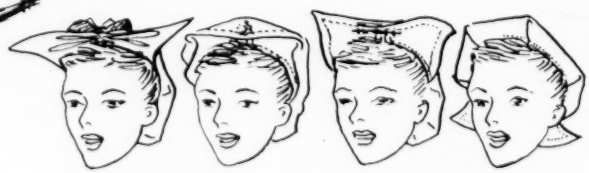

And then cap everything with the Capetite—the six-way cap that makes individuals of persons.

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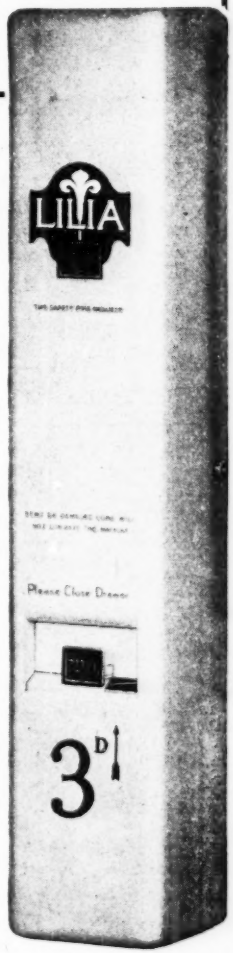

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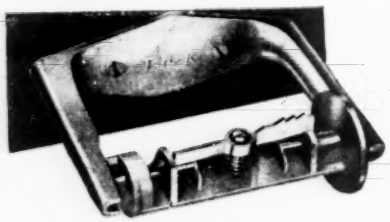

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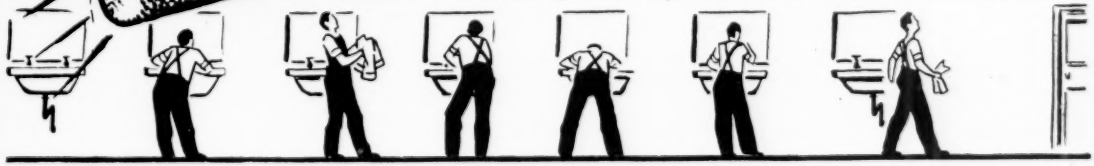

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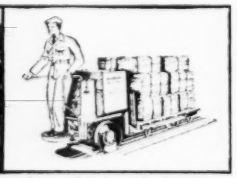

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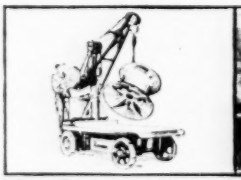

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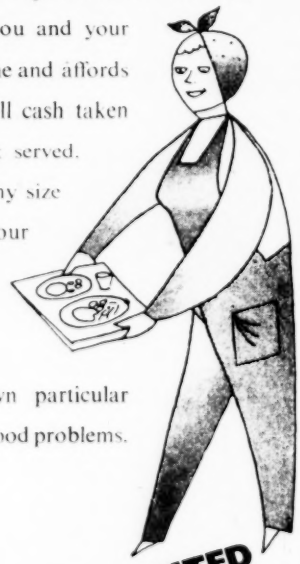

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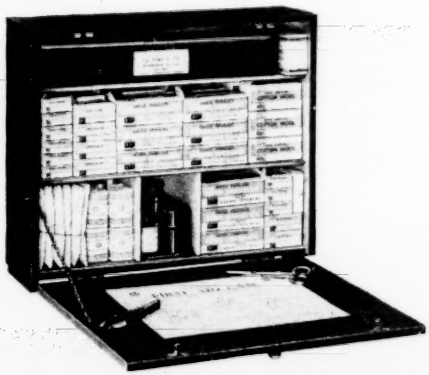

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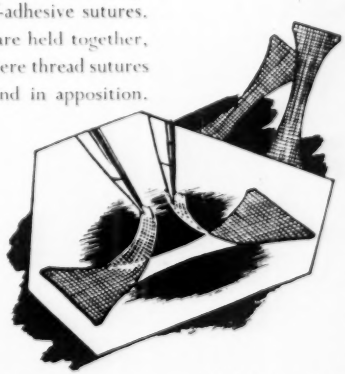

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PERSONNEL MANAGEMENT WELFARE AND INDUSTRIAL EQUIPMENT

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COVER: Air of the correct humidity and temperature is vital to successful cotton spinning and weaving. Our picture shows air conditioning ducts, with their outlet and inlet points, in a Lancashire cotton mill An article on the importance of air conditioning to industry and its workers appears on page 381.

Vol. 18, No. 142

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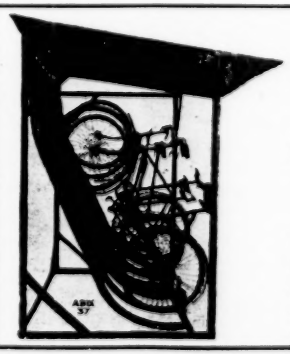

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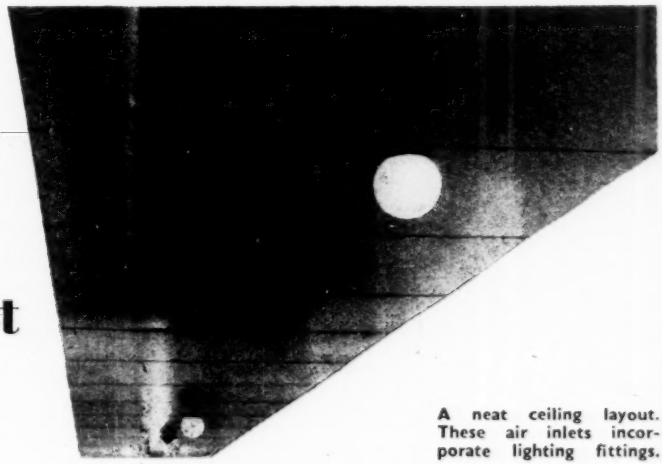
How Air Conditioning Helps to Boost Productivity



A neat ceiling layout. These air inlets incorporate lighting fittings.

By controlling, within wide limits, air temperature and humidity, modern air conditioning contributes to workers' health and comfort, increases efficiency and reduces fatigue and proneness to accidents. It is also of value in maintaining the quality of weather-sensitive products.

By ROBERTSON MORAY

SCIENTIFIC research has shown that if the temperature of the human body changes by only a few degrees from the narrow range associated with normal health, working capacity is impaired and fatigue ensues. Whatever the nature of his task, it is important that the worker should be able to balance his heat production by the heat lost from his body to the environment, for otherwise body temperature would change. According to Crowden,* the body heat production of an adult clerk sitting at his desk may be of the order of 400 B.Th.U.'s per hr., whereas a foundry worker or miner generates heat within himself at the rate of 2,000 or more B.Th.U.'s per hr. Nature's physiological provisions for body temperature regulation, namely the circulation of blood through the skin and sweating, may be excessively strained if work is performed in an environment where the thermal characteristics are unfavourable. Among the most important factors influencing working capacity are the dry bulb temperature of the atmosphere, humidity, air movement and air purity.

Investigations carried out by the Industrial Fatigue Research Board have produced irrefutable evidence as to the effects of bad thermal conditions on efficiency and production. In badly ventilated tinplate factories it was found that the capacity for work of the millmen varied almost inversely with the external temperature. In mines where the temperature and humidity of the air were high, efficiency—as gauged by the voluntary rests taken per hour and the increased time spent in filling tubs with coal—was up to 40 per cent less than that with which similar work was performed under cooler conditions. Under conditions of heat and humidity and poor ventilation, workers are obliged to rest periodically in order to lessen their own production of body heat. The sensation of fatigue is a warning signal that the body temperature regulating mechanism is becoming strained. Workers who disregard it by failing to rest not only experience bodily discomfort, but are also liable to be less aware of risks and hence more accident-prone. It has been found that under hot and humid conditions both the frequency and severity of accidents tend to increase.

Temperature control and air movement play an essential part in creating good working conditions, but the health and capacity of workers is also influenced by humidity, or the amount of water vapour mixed with the air. It is when the air becomes highly saturated with moisture that fatigue and discomfort begin, for high humidity hampers the natural evaporation of moisture from the body.

Modern air conditioning involves the positive and automatic control of four factors: temperature, humidity, cleanliness, and distribution of the conditioned air. It strikes the proper balance by reducing humidity

Though working momentarily in conditions of great heat, this operative is safeguarded by air conditioning.

* G. P. Crowden, D.Sc., M.R.C.P., "The Practical Application of Physiology to Hygiene in Industry."

in summer and increasing it in winter. In hot weather warm air drawn from outside the building is passed through a spray of very cold water or over pipes containing a cold refrigerant. When cooled in this way the warm, humid air gives up its moisture, and is then ready for circulation at whatever temperature and degree of humidity are desired. Similarly, the cold winter air is passed through a spray of heated water to give it the necessary humidity. The air so treated is distributed and circulated by means of ducts and fans. Temperature and humidity need not be rigidly controlled; in fact, a working environment in which these characteristics never varied must soon become monotonous. By controlling them within broad limits, air conditioning contributes to the health and comfort of the workers, increases efficiency and production, and reduces fatigue and proneness to accidents.

Another important advantage is that an air conditioned building can be sealed to exclude dust and dirt. Not only is this a valuable contribution to hygiene, but by facilitating cleanliness and maintenance it enables substantial savings in labour and wages to be effected. Experience has shown that employees appreciate working all the year round in a comfortable atmosphere, free from dust. Labour is attracted to air conditioned factories and employers benefit not only from increased efficiency and production but also from a marked reduction in absenteeism due to sickness.

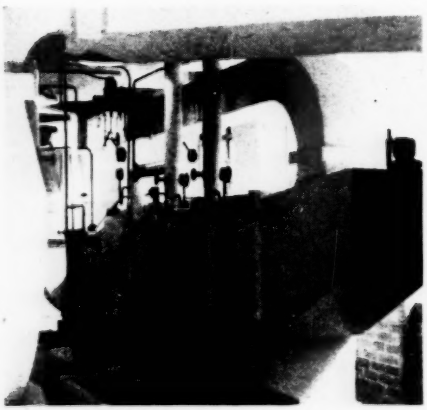
In many offices it is necessary to have double glazing in order to keep out noise, and some system of ventilation must therefore be provided. Since the windows cannot be opened it is usually desirable that there should be some means of alleviating the discomfort caused by sun effects on glass, and air conditioning then becomes almost essential to the welfare of the office staff.

It is not generally known that the science of air conditioning originated in Britain, though it was first commercialised in the United States. Nowadays its advantages are becoming more and more widely appreciated in Britain, where the production and installation of air conditioning systems have become an important industry. British equipment is exported throughout the world.

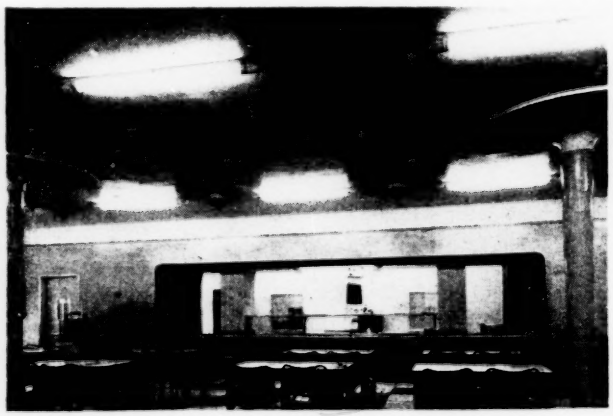
Though outside the scope of this article, brief reference should be made to the value of air conditioning in many industrial processes where weather-sensitive products are involved. In colour printing faulty registration may occur because paper is so sensitive to moisture that while the ink of one impression is drying it may shrink or swell. Atmospheric conditions also affect the drying time of inks and the behaviour of paper in the press. These difficulties are overcome by air conditioning. Among many products which require to be manufactured and/or stored under controlled atmospheric conditions are chocolate, tobacco, films and textile yarns.

In air-conditioned premises

1. **Workers enjoy cooled, dryer air in summer, warmed, more humid air in winter.**
2. **Dust and dirt can be kept outside.**
3. **Fresh, clean air is distributed to every nook and cranny.**
4. **Workers remain alert longer, are less liable to accidents.**
5. **Chocolate, tobacco, films, textile yarns, etc., can be made and stored in the right atmosphere.**



Air of the right temperature and humidity is necessary where "weather-sensitive" products are involved. This is part of a chocolate factory's air conditioning plant.



The unobtrusive inlets in the ceiling bring a constant flow of fresh, clean air of the correct humidity to this canteen.

(These photographs and that at the top of page 381, by courtesy of Richard Crittall and Co. Ltd.)

What an Employee Expects From Personnel Management

By J. GARLAND, B.E.M.

shop steward in the North British Rubber Co. Ltd. and Secretary of Edinburgh No. 5 Branch of the National Union of General and Municipal Workers.

How to keep down labour turnover? Is it best to promote from the shop floor, or from the outside? What factors should govern redundancy dismissals? What makes a successful training scheme? Mr. Garland's answers to these questions—based on a long experience both as employee and as trade union official—will no doubt be of interest to top management.

IN a large factory, the post of personnel manager is of major importance. The company cannot afford to make mistakes in this appointment, for an error at this level can affect the efficiency of the factory by misplacement of labour or endanger relations between management and operatives.

The personnel manager must have more than the average share of common sense, a well-developed flair for human understanding and the ability to arrive at a quick analysis of the individual. The primary function of his organisation—which will only be as good as the man or woman in charge of it—is to feed the factory with labour when required, to select by interview and, on the results of the interview, to place the candidate in a production position best suited to his or her ability.

How to Interview

Too often the personnel organisation breaks down at this point. I have seen too many square pegs in round holes. Therefore I suggest that interview clerks should each be allocated a territory within the factory and should have a first-hand knowledge of the mental and physical requirements of every operation in their territory. Too costly? It costs less to put the right person in the right job the first time than to spend money on training an operative who never makes the grade because he is unsuitable for the job.

Another point on interviewing. Don't mislead new starters about incentives, where these apply. When informing the applicant of the wages he can hope to earn after training, please be conservative in your figures and don't quote the earnings of operatives of long experience. I know that departmental supervisors are often responsible for misleading information on earnings when they put in requisitions for labour; but it is up to the personnel manager to check this information. It is his integrity that suffers when, after being told he can earn £8 a week, the new man discovers he can only earn £7.

Tell the Applicant

If the vacancy to be filled has any unattractive features, like dirt, high temperature or monotony, *tell* the applicant. I am sure that a certain amount of labour turnover is attributable to lack of accurate information at the interview.

After the applicant has been finally interviewed, assessed, selected and passed into the factory, every step should be taken to follow up, report on and record his progress. Don't just launch your new entrant into the workroom and wait for reports from the supervision. Get these reports yourself, keep in close contact with new operatives, and make them feel they are important. Make them realise they are part of a team and essential to the company's progress.

This is the crucial point in the whole structure of personnel management. I have often seen the new operator sent into the workshop, left to the mercy of poor supervision, shown his new job and, without proper training, left to his own resources. If he is tough and has the ability to make the grade, he stays. If not, he becomes disillusioned and ultimately gives up, to become another figure on the debit side of your labour turnover account.

New labour should be kept in close personal contact with the personnel management organisation for six to twelve weeks after starting.

There is a general tendency to accept labour turnover as an inevitable result of full employment. So long as the figures equal the average for the industry, many firms are complacent. This is wrong. If your figures are average, or even better than average, it is still your duty to get them down further, *because labour is probably your company's most expensive raw material*, and its turnover one of the greatest monetary drains on industry.

Analyse your figures and break them down into departments. Find and investigate those with a percentage higher than average. There must be some reason why these are higher. Is it the job, the amenities, the operatives, or the supervision?

Ask Leavers Why

All operatives who give notice to leave should be asked why they are doing so—in an interview as detailed as the one they had before selection. As well as being informative, such an interview is likely to create in the employee's mind a good impression which could bring him back to your firm later in search of re-employment.

The personnel organisation is very often faced with requests from employees for interview on personal

problems in great variety. If it is not, the department is not functioning properly. Only when employees trust you will they confide in you—and when they do, be courteous and considerate, don't minimise their problems, no matter how trivial these may seem, and don't ridicule them. The problem that brings an employee to you has gained temporary predominance in his mind. It is his mountain; don't tactlessly try to make it into a molehill. Help him to regain perspective by means of friendly advice and persuasion. If you do, I am sure you will gain a friend.

Of course, this method will not always apply. Different temperaments need different treatments. The personnel manager must be able to judge his man quickly, and to decide in a moment whether he is going to be persuasive, dictatorial or downright rude. But whatever the problem, take it seriously.

Now for another controversial subject—promotion. I believe in promotion from the workshop floor. When management goes outside the plant to make supervisory appointments, it must consider that the selection ability of the personnel department has failed. In every section of your factory under the charge of a supervisor there is an operative who is equally capable. But when you leave supervisors to recommend operatives for promotion you do not get the best results, because they usually want to keep their best man. They don't want to lose an experienced man and so be compelled to train another learner to take his place.

"*Shadow*" *Supervisors*

Therefore I believe that the personnel organisation should create what I will call, for lack of a better phrase, "shadow supervision." In every section where you have a supervisor in charge, you should have a "shadow," or alternative, already selected. This shadow supervisor will be chosen because of knowledge of the job plus ability, and will always be ready to take over production without loss of efficiency. He or she should learn thoroughly every process in the section, and be able to do them well. Then, not only will the operatives respect him, but also he will keep the actual supervisor on his toes. This may sound inhuman, but I suggest that if it is right to apply an incentive to the operative, it is equally right to apply one to the supervisor.

Training is closely allied with promotion. It should comprise five distinct phases:

1. Keep contact with the new entrant until he is efficient in the operation he was selected for.
2. If he shows outstanding ability, let him learn other operations in the same section.
3. If he comes successfully through the second stage, and manages to combine quality with speed of output, put him on the list of shadow supervisors.
4. Train him, as a shadow supervisor, in leadership and human understanding. These qualities are even more important than brilliance in production knowledge.
5. Continued training for supervisory grades. There is no reason why an operative with ability plus willingness to study should not reach top management status.

When people leave the firm, either voluntarily or because they have been dismissed, their cases call for thorough investigation by the personnel department. The factors governing dismissal because of redundancy should be, in my opinion, service within the section plus service with the company. Where service is equal, ability should be the deciding factor.

No article on the subject of personnel management would be complete without some reference to trade union relations and joint consultation. As a trade union official, I can speak with some experience on these matters. We—the personnel manager and the trade union officials—have every reason to work together; our aims are similar, our methods identical. Our joint duty is to maintain the smooth running of our factory, the avoidance of disputes, the promotion of the welfare of employees and to interpret and carry out decisions of top management. I never look on the personnel manager as a rival or competitor, but rather as an ally.

The personnel manager should have a definite status in the procedure for settling all forms of dispute. This is the procedure adopted in my company: Operative to supervisor, operative to shop steward, shop steward to supervisor, shop steward to superintendent, shop steward to branch secretary, branch secretary to superintendent, branch secretary to divisional manager.

At this level, and before taking the problem to top management, the personnel manager should be brought into the picture. He should be part of the negotiating machine at top level because, while he is a part of top management, he also has, in my opinion, an *equal responsibility to the employee.*

Joint consultation is a more controversial subject. Some opinions already condemn it, but I am all for its continuation. It is right that both sides of industry should have the opportunity of appreciating each other's problems. In my experience, both sides have gained benefit from the practice.

A SHOP STEWARD'S VIEWS

Every section with a supervisor should have a "shadow supervisor" too.

Tell applicants everything about the job—and give exact details of pay.

Interview leavers as closely as you interview starters.

Personnel managers and trade union officials should be allies. Their aims are similar, their methods identical.

The personnel manager has an equal responsibility to employer and employee.

Both sides of industry have gained benefit from joint consultation.

Training Dry Cleaners

WHEN Lt.-Col. Sir Thomas Moore, C.B.E., M.P., presented diplomas to successful dry cleaning and dyeing technology students in Crosby Hall, Chelsea, on March 1, a turning point was reached in the history of the Dry Cleaning Technical Training Bureau. Since its inception in 1948, the bureau has been sponsored by the directors of *Power Laundry*, but on March 1 it was taken over by the National Federation of Dyers and Cleaners.

During the past 3½ years, 1,694 students have attended a total of fifty-eight evening lecture courses on dry cleaning and dyeing technology, held in London and elsewhere. 614 students — 75 from overseas — have taken one or other of the nine different correspondence courses available. Of the students taking the examinations 73.5 per cent have been successful.

Students are mostly employees of dry cleaning and dyeing firms, but the classes are open to anyone.

Discussion Group Method Reveals Future Leaders

By JOHN SANDERS

Training of workers at all levels has been developed to a fine art by Achille Serre Ltd., dyers and cleaners. A highly important aspect of their scheme is that, having chosen potential supervisors, they rely on informal, non-technical discussions to determine whether — and in what type of work — candidates will make the grade.

Valuable suggestions have emerged from discussion groups like this, in which employees with the aid of models give their views on the layout of factory production units. The models are made in the works' carpenter's shop.

TO meet greatly increased demand over recent years, the cleaning and dyeing industry has been compelled to augment its labour force, in the face of competition from scores of other industries for workers. In cleaning and dyeing there are many grades of essential workers with special skills at their finger-tips, skills which cannot be acquired in a day or two but which call for a thorough practical training.

Simultaneously with the recruiting and training of skilled operatives this industry, like any other, must keep a sharp look-out for potential managers and supervisors. And there is a third grade of employee who needs special training—the manageress of the dry-cleaners' branch shop. She comes into direct contact with the customer and, therefore has a great influence on the success or failure of the business.

This is how the problems of recruiting and training are tackled by Achille Serre Ltd., one of the largest dyeing and cleaning firms in this country, with some 170 branches in London and the South.

At their Walthamstow works, Achille Serre find that recruiting of suitable labour is helped by the fact that the work is cleaner and lighter than in the majority of factories in the neighbourhood. Again, there is a family tradition running through the works. The firm has many excellent family contacts, and three generations of one or two local families are employed there. Fathers recommend their sons and mothers their daughters to the works and among the part-timers are quite a few women who were employed there full-time before they married.

Younger Hands Attracted

But all these people have to be trained, in a greater or less degree, before they are capable of producing the class of work for which the firm is noted. The training schemes which the firm has instituted and developed during the past three or four years have tended to attract younger hands than formerly. This tendency is welcomed by the management. When they have been selected for a certain operation, operatives-to-be are taken in hand by supervisors, departmental managers or senior hands who have been chosen to instruct because of their skill, experience and interest in their work. They are responsible for the progress of all new entrants into their own department. This initial training may last for two weeks or longer, according to the nature of the job. The management, do not consider a raw recruit can be adequately trained in less than six weeks, but they believe that a new starter's ability to "make the grade" can be ascertained in two.

Once they have acquired the necessary skill, all but a small percentage of the workers are content to stick to their own job, and seek neither change nor greater responsibility. The management, however, must be constantly searching for potential supervisors and departmental managers, and they have devised a scheme whereby any employee has the opportunity to rise to better things in the company.

Periodically the departmental managers are required to submit the names of the hands under their control who, in their opinion, both deserve promotion and are capable of taking advantage of it. All the chosen employees are asked whether they wish their name to go forward. Not all are ambitious, but from every list of names placed before the works manager and the training officer, a batch of around twenty emerges. These people are given combined intelligence and dexterity tests specially devised by the National Institute of Industrial Psychology, and take part in informal group discussions.

These discussions are on a number of subjects of every-day, general and human interest, devoid of "work" technicalities. They are designed

to stimulate discussion and elicit individual opinions, to indicate the degree of intelligence possessed, to reveal latent leadership and initiative and thus to determine (a) whether the candidates will make good as supervisors and (b) what is the responsibility they are best fitted to shoulder. They are conducted during working hours and are attended by members of management including the chairman or company works manager, and the training officer who, however, hold merely a watching brief with a view to assessing the merits of the potential supervisors and deciding later whom to promote and to what positions.

Selected candidates then begin a course of training for their new work and, providing the training reports are satisfactory, are given "acting rank" under the manager of the department for which they are destined. All such candidates are informed that they may be asked to stand down in favour of another candidate for promotion or that it may be necessary to transfer them to a department other than the one for which they were originally selected. Any such delays in assuming the fresh responsibility, however, are usually only temporary.

Technology Courses

Concurrently with their instruction in the works, the trainees are given every encouragement to acquire specialised, technical knowledge—not only that which they must have in order to succeed in their new job, but knowledge of processes employed in other departments. With fees paid by the company, they can attend courses in dyeing and cleaning technology conducted in London by the industry as a whole and courses in supervision and management held at the South-west Essex Technical College and by the Industrial Welfare Society. When necessary, trainees are given time off from work for this purpose. Instructional classes are also given by senior employees in working hours.

An interesting part of Achille Serre training is the instruction of many workers in a skilled job additional to the one for which they are primarily engaged. This idea was adopted because much of the factory's work is seasonal. To prevent employees becoming idle or being "stood off," and to ensure that as many as possible shall be capable of

After being selected for a particular job, operatives-to-be are trained by the supervisor, departmental manager or senior hand of the appropriate department. Here a trainee is being instructed in the use of a press.

substituting for hands who are temporarily out of action, ironers are trained to become pleaters, Hoffman pressers to do "spotting," and so on. This not only keeps hands employed in slack periods, but prevents bottlenecks in production, for it means that if one "unit" is hard pressed another which is not so busy can release hands to tide it over the difficult period. (The factory is divided into a number of units, each of which handles virtually all the work received from a fixed number of shops.)

All the chief executives take a very close and keen interest in the firm's training schemes. Discussion groups which are held frequently for departmental managers, supervisors and employees who are training for executive positions, and lecture courses given inside the works, are always introduced or concluded by a few words from one of the directors, works manager or executive of similar status.

Recently a number of discussion groups have taken place around a scale model of a unit (made in the carpenter's shop) which is a faithful reproduction of the real thing, including all the machines and other equipment used in carrying out customer's instructions. Operatives are called in groups to express their views on the operation of the unit and to make suggestions for improving the rate of output. They move the models about to conform to what they think is a better layout, offer new ideas regarding methods of operation and point out ways of increasing efficiency. From these discussion groups some original and valuable suggestions have emerged and have been adopted in the works with success.

Similar group discussions deal with most of the departments individually. All these talks are considered of great value, not only directly, in obtaining improvements in the processes of cleaning and dyeing and stepping up output, but more indirectly in that they contribute a great deal to putting the employee "in the picture," making him feel that his job is essential to the combined efforts of the whole firm and showing him how he fits into the scheme of things, and thereby giving him greater enthusiasm for his work.

The training course for branch manageresses has been planned so that, while being away from their shops for the minimum of time, they gain the maximum of knowledge and advice. They visit the factory periodically, take part in discussion groups, make a thorough tour of the works (where every process is inspected and explained to them) and make contact with the workers who "operate" on their customers' orders. Every manageress is also provided with a manual of information and instruction which has been compiled so as to cover all but the most unusual problems which customer's requirements may present. Manageresses are kept informed of all new developments and improvements in dyeing and cleaning techniques.

Birmingham Research Team Aim to Cut Losses from Minor Injuries

By A SPECIAL CORRESPONDENT

It has been estimated that minor injuries cost the country £100,000,000 a year in lost time and reduced efficiency. The Industrial Medicine Research Unit in Birmingham is working in laboratory and workshop to find means of avoiding such injuries and of preventing those which cannot be avoided from developing into something more serious.

THERE is on every side an accelerating movement to tackle accident prevention; but some specialised research now being undertaken at the Birmingham Accident Hospital, in collaboration with works medical officers of the great Midland firms, is of profound importance in that its achievements may radically alter the present treatment of minor injuries and their consequences. The Industrial Medicine Research Unit of the Medical Research Council of Birmingham is now working not only in its laboratories and clinics at the Accident Hospital (a pioneer institution which is internationally known for its activities in recent years), but also in factories and workshops where co-operation is sought with employer, operative, engineer and medical staff.

Sepsis Cases

Sepsis has been especially studied, since the septic finger looms so large in the accident case register of most works surgeries, and remarkable results have been achieved in its control through the use of antibiotic drugs such as penicillin, with consequent shortening of time lost from work and lessening of personal disability. *The unit has proved in its researches the value of having dressing stations in the shops with staff specially trained to prevent sepsis developing at the onset.* It is the early stages of wound healing that matter.

Of the special lines of enquiry which the research unit now has in hand and which may soon radically affect industrial medical welfare, the following are particularly important.

Ultra-violet light is being used to detect the persistence of oil on a worker's skin and experiments are also being made in ways of recovering the natural grease from the skin for chemical analysis in order to test its germ killing properties. An apparatus in the laboratories makes it possible to grow human skin in order to find out what factors damage it. All these experiments aim ultimately at accident prevention, and at establishing the best method of treatment if injury does occur.

Accident Prevention

Professor J. R. Squire, honorary director of the research unit, states that attention is being increasingly focused by his team on the prevention of injuries, and in this sphere the unit is doing valuable work in co-operation with the Department of Engineering Production at Birmingham University, while remaining constantly in liaison with local factory inspectors and industrial medical officers. The unit is working with a panel of the Midland Advisory Council on Productivity on a special study of machine tool design as part of a long-term policy which envisages the relation between tool and machinery design and employee safety.

The Accident Hospital is also making a prolonged study of burns, and strongly urges that many industrial burns could be prevented by the wearing of proper protective clothing. Of 111 cases of burns admitted to hospital from industrial concerns in 1950, thirty-three were caused by molten metal and twenty-six were burns to the feet, many of which need not have occurred had asbestos gaiters been worn. Similarly, the hospital insists that a large number of foot accidents, fractured bones and deep incisions and so on could have been prevented by the wearing of safety boots.

The moral is plain—and there seems to be a growing number of firms who issue safety boots either free or at a subsidised cost or with some sort of machinery by which small payments are deducted weekly from wages (with provisions to avoid infringements of Truck Acts, of course).

Fire-fighting Film

THOUGH made for training Service personnel, "Aircraft Fire-fighting at Naval Air Station," a 20-minute film shown to the press recently, has points of interest for all concerned with industrial fire-fighting.

It shows the action of a "crash crew" when dealing with a crashed aircraft fire at a naval aerodrome. Close-up shots of vehicles, equipment and crew are accompanied by detailed descriptions on the sound track. The sequence of operations, from receipt of the pilots' "emergency-landing" request to the extinguishing of the last vestiges of fire in the machine, is exhaustively dealt with.

The film may be hired on application to the Director of Stores, Admiralty, Whitehall, London, S.W.1.

Glenfield and Kennedy Ltd., Kilmarnock, are to build a foundry bath and change-room in their works at a cost of about £15,000.

They Use The "Why" Technique

WORK simplification has yielded big savings on the manufacturing side of Thomas Hedley and Co. Ltd. Increased productivity has come from questioning the efficiency of or necessity for materials, equipment and buildings, as well as from improving manual efficiency. Improvements—some of them startling—have been made by applying the "why" technique to the removal of production bottlenecks.

The question "why" can be asked of anything and for detailed analysis of jobs it is expanded into a logical series of questions, e.g.: *WHAT is done?* WHY is it done at all? What else could be done to accomplish the same result? *WHERE is it done?* WHY is it done there? Where else could it be done? And so on.

A typical example, where the study resulted in a 100 per cent increase in capacity, was that of a bar soap cutting machine. The machine was used for cutting a slab of soap into tablets, and the job involved feeding the slab to the cutting table, performing two cutting operations and lifting the racks holding the tablets off the machine to a truck.

The machine was designed for operation by two men and its output was governed by the speed of their operation. A cycle chart showed that the two men were busy throughout the cycle, but the machine was idle for half the time. Investigation of this idle time led to the using of four men instead of two. Small changes in method made it possible to dovetail the movements of the four men, so that the machine could be kept running continuously. The result was an increase in capacity from nine to eighteen trucks per hour.

Key to Safety

IN its twenty-years' of existence the Du Pont Company's rubber laboratory has never had a lost-time accident. This enviable record is put down to the work of the laboratory safety committee, composed of four or five employees who check the whole building, from the director's office to the janitor's broom cupboard, for unsafe practices.

To keep a fresh outlook for trouble, the committee, except for one permanent member, is changed every month, so that eventually every employee serves on it. All reports to management are conscientiously investigated and dealt with. Key to good safety practice: every employee is safety-conscious and management treats safety seriously. (Condensed from *Safety Maintenance and Production*, 12/51.)

Democracy at Work

INTERESTING experiments are now going on in two Birmingham firms, the Aston Chain and Hook Co. Ltd., and Best and Lloyd Ltd., inculcating what is known as the "small work group" concept.

A form of on-the-floor democracy, the scheme allows every employee to meet monthly, in a small group, during working hours and at normal pay, to share in the formulation of company policy. The significance of this is that each individual, and not only those elected representatives (as in the usual J.P.C.'s), takes part if he wishes.

There is an election process in the scheme but it centres on the personnel-welfare worker (the equivalent of the personnel manager elsewhere), who is democratically elected with the result that every employee thus has representation at top executive level, similar to parliamentary representation.

Both the firms where this scheme is operating successfully are small companies. Enthusiasts insist, however, that the small work group is applicable to the large mass-production factory and that it is essential in, for instance, nationalised industries, if the individual operative is to feel he has personal significance and is not merely an unimportant cog in a remotely controlled machine.

New Ideas Earn £12,000

TWELVE THOUSAND pounds for bright ideas submitted through works suggestion schemes was paid to employees of the Joseph Lucas organisation during 1951. End-of-the-year additional awards were paid by the directors to thirty employees who had between them already received £1,506 for their ideas.

Star money-spinner in 1951 was a 38-year-old chargehand, who received £450 for his suggestions. Another employee, who during 20 years' service has submitted forty ideas for saving time, material or labour, has fifteen ideas under consideration at present and hopes they will earn him £1,000 during the next year or two.

A toolroom fitter, who received £190 last year, has submitted four ideas during the past three years which have netted him a total of £500. No less than eighty suggestions have been submitted by a chargehand in the windtone horn assembly shop, and although only six were accepted his awards total £500.

Since the introduction of the suggestions scheme in 1923, it is estimated that employees have earned about £22,000 for their ideas on improving methods, increasing productivity and saving time, materials and labour.

Exchange Visits

FOR the fourth successive year, visits have been exchanged between young European workers and young workers from Bournville. Since 1947, when the War Memorial Scheme was initiated by Bournville's Youth Committee, 129 boys and girls have gone abroad and eighty-six from overseas have visited each other's countries. Language classes in French, German and Dutch are held at Bournville and have proved very popular with the added stimulus of a visit abroad.

Factory and office staff of T. Wall and Sons Ltd., drew lots for a free week-end in Holland. More than 300 workers applied, and the lucky forty-four were the guests of a Dutch company, in return for hospitality extended to Dutch workers who visited England earlier in the year.

SALESMEN TRAIN IN DUMMY SHOP

"The grocer" (a senior sales executive) talks to a young salesman in the dummy shop erected for a series of two-week salesman training courses held by Batchelors Peas Ltd., at Sheffield. Shelves are stocked with products from the company and other manufacturers, and the shop has a plate-glass window.

P.T. IS GOOD FOR THESE OVER 30's

Vauxhall Motors Ltd., have found that physical training makes better apprentices (see "P.T. Pays" in right-hand column). Not to be outdone, the "over thirties" have formed a P.T. club and spend two evenings a week keeping fit.

Free Pensions for 3,000

OVER 3,000 employees of Thomas De La Rue and Co. Ltd., will shortly enjoy the benefits of a new pension scheme, the cost of which will be borne entirely by the company. It will apply to employees with five years' service or more, within certain age limits. Pensions will be payable to men at 65 and women at 60, and all will be insured against death during service, thereby assuring dependents of support in times of difficulty.

£1,536 for Exam Successes

DUNLOP RUBBER CO. LTD., employees made 1951 a record year for examination awards, which have been increasing steadily for the past four years. One-hundred-and-sixty-seven cash awards, amounting to £1,536, were made during the year.

Fish in the Current

MEN in the meter-testing department of London Electricity Board are running their own aquarium. They built and stocked it themselves, and contribute 3d. each per week towards the cost of maintenance. The aquarium now contains nearly forty fish representing more than twenty different species.

New Use for "Scooters"

EASTMAN KODAK COMPANY'S plant covers some 400 acres, and has 18,000 steam traps, 3,000 telephones, 50 master fire boxes, and a staff of 12 technicians to service all this equipment. A call to repair a telephone might mean a two-mile trip, so to speed up service "scooters" (miniature motor-cycles) have been introduced, each equipped with a box 3 ft. by 3 ft. containing a complete set of tools and test equipment for the various jobs.

(Condensed from *Factory Management and Maintenance*, 10/51.)

How to Cut Absence

BY constant attention to all aspects of industrial accident and illness, the Frigidaire division of General Motors Ltd., have succeeded in cutting their absence rate to between 3 and 4 per cent. Prospective employees are examined by the factory medical officer if there is the slightest doubt as to their physical fitness for the job. Once employed, they are given continuous education in the need for avoiding accidents and illness. Booklets, posters and similar accident prevention propaganda are provided. Practical preventive measures include the supply of barrier creams against dermatitis, bottles of neutralising agent for treating acid burns, and resuscitation units provided for workers overcome by fumes.

A well-equipped hospital block can deal promptly with accident cases, as well as give sun-ray treatment, which has been found effective for superficial septic conditions.

As part of their health and fitness policy, the management encourage the recreation clubs, and there are no less than six benefit schemes which Frigidaire employees can join. (Condensed from *Business*, 1/52.)

Workers' Pantomime

EKCO PLAYERS, employees of E. K. Cole Ltd., Southend, staged last month their annual pantomime "Babes in the Wood," music for which was provided by their own orchestra.

Ideas & News from House Magazines

New Clubrooms

A centre for the activities of the 1,000-strong social club of Remington Rand, has been provided by the opening of a new clubroom at Hillington. The clubroom can seat nearly 400 people and during the day is used as a canteen. The stage is fitted with full-scale lighting equipment, and the dressing-rooms are comparable to those of any theatre. **(News.)**

Canteens—New and Old

Opening the new canteen at C. and L. Hill, Mr. A. G. B. Owen, managing director, recalled that in 1917, at the age of 9, he had opened the canteen at Rubery, Owen and Co. Ltd., the first works canteen to be opened in the Black Country. The Hill canteen is decorated in cream and beige, with tables and chairs of cream and brown. Flower gardens and a bowling green are to be laid out near the canteen, which is also designed for use as a social centre. **(Goodwill.)**

Supervisory Training

A scheme for training supervisory staff has been inaugurated at Igranic Electric Co. Ltd. A small group of shop supervisors were sent for a two-day course at Cambridge on the background and functions of supervisors. Attendance at such courses is voluntary. **(Intercom.)**

25,000 Tons of Scrap

An extensive drive by Richard Thomas and Baldwins in all sections of the company over a period of seventeen weeks has yielded 25,000 tons of scrap for their steel works. This has been secured by a thorough search of all shops, stores and yards, and is additional to the process scrap which arises in course of manufacture. **(Ingot News.)**

P.T. Pays

Experiments into the value of physical training, conducted at Vauxhall Motors over two years, have proved that P.T. is of undoubted benefit. A group of apprentices were given two 45-minute sessions each day, and results were checked against a similar group which got no exercise.

The chief medical officer, Dr. A. R. Thompson, who undertook the examination of these youngsters, found that there was an improvement in the physique of those taking P.T. There was a greater increase in height, and a dynamo-meter pull test showed that this group had a 50 per cent greater increase, while sickness absence was reduced. The boys themselves claimed that they had more energy and agility and felt less fatigue. **(Vauxhall Mirror.)**

Tackling the Noise Problem — 2

These Materials Soak up Sound

Last month A. G. Thomson described the general principles for cutting down noise in factory and office. The present article deals with sound absorption in particular, and tells how several firms use it to quieten noisy processes and rooms.

OF the utmost importance in noise reduction is the fact the ear does not respond to sound directly according to its energy. Quite a small decrease in the actual loudness level is sufficient to reduce the degree of apparent loudness to a level at which annoyance is no longer caused.

The behaviour of noise and its effects on the occupants of a room can best be explained by considering a specific application of acoustic treatment—for example, to a typing office with walls of normal plaster-on-brick construction, a hardwood floor, and a ceiling of any traditional type. These surfaces absorb less than 5 per cent of sound that strikes them. The sound created by the typewriters travels at 120 ft. per sec. and over 95 per cent of it is reflected back from surface to surface. As it crosses and recrosses itself the loudness is built up to a level far exceeding that of the sound actually made by the machines, and may well become intolerable.

80 *per cent Absorption*

If a highly efficient absorbent treatment is applied to the reflecting surface, approximately 80-85 per cent of the sound created is absorbed on impact. Apart from the reduction in loudness so achieved, this treatment gives each person the impression that his or her neighbour operating a similar machine is several yards away. Calculated in reverberation time, which is the period sound takes to decay, a 7-phon reduction in the actual loudness is equivalent to removing 80 per cent of the noise-making units. At the same time the apparent loudness or real annoyance level may be reduced by over 40 per cent. It would, in fact, be necessary to make about five times as much noise in the quietened office to reproduce the former conditions.

Which materials absorb sound? Says Mr. E. G. Ewing, an acoustical specialist:

"Felts, fibreboards, rubber, cork and mineral or glass wool, when suitably covered, are used extensively to reduce the noise level in anything from a factory to a canteen or typing pool. The more sound-absorbing the room surfaces, the less is the sum of the reflected or reverberant sound which is added to the direct noise from the source—machinery, table cutlery or typewriter. As a result of adding sound absorbents to certain areas of the enclosures, the lower is the noise level for any given source of sound. (A sound absorbent *reflects* only a fraction of the sound energy which falls upon it. A sound insulator *transmits* a fraction of the sound energy which reacts upon it.)

"Sound absorbent treatment reduces the reverberant sound, but cannot affect the sound proceeding directly from the source to the listener. Thus there is always a limit to the amount of treatment which can be usefully applied; it is no benefit to reduce the reverberant sound much beyond the stage when the direct sound is perceptibly predominant."

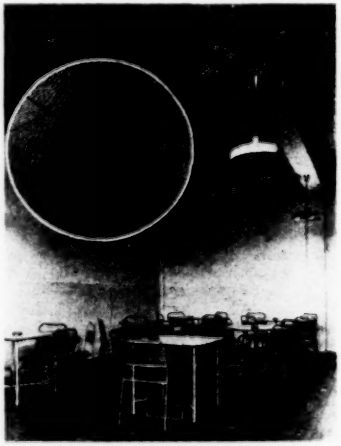
Reduction of the loudness level raises efficiency, makes for safer working and tends to attract the best type of labour. Here is how a number of firms have reduced noise on their premises.

Case History No. 1

A particularly noisy works canteen, 60 ft. × 40 ft. × 20 ft., was the subject of sound absorbent and noise reduction treatment recently. The floor was parquet, ceiling and walls hard plaster finish. Heating panels were installed in equally spaced ceiling areas. There were windows at each end. The entry was on one long side and the kitchen serving counter was on the other. There was accommodation for about 400 at one sitting. The average noise level, measured before remedial treatment, was about 80 phons, or 33 loudness sensation units.

After treatment the noise level was measured again and it was found to be only 66 phons, a reduction of 14, or 23 loudness sensation units.

Treatment: One long wall, from ceiling to dado height, and parts of ceiling not obscured by heating panels, treated with 1½ in. thickness of glass wool covered by perforated hardboard (8 mm. perforations at 20 mm. spacings). Hardboard was fixed to 2 in. × 1½ in. battens nailed at convenient spacings to ceiling and wall areas. Room was decorated with ordinary oil-bound paint applied in thin coats to avoid filling up perforations. To reduce noise at source, legs of all chairs and tables had



Canteen clatter was reduced by fitting perforated hardboard panels (see inset) to this ceiling.

[Photograph by courtesy of Horace W. Cullum and Co. Ltd.

rubber feet screwed in. (Henceforth chairs had to be lifted, not slid.) Table tops, previously glass, were covered with cloths.

In noise reduction treatments, no one thing will make all the difference; it is attention to a lot of trivial points which cumulatively produces the required results.

Case History No. 2

At another factory a telephone had been installed within the heart of a noise centre, so to speak, for use in emergency to control the operation of a continuous shaker belt, some 100 ft. long, employed in a food production process. It was almost impossible to hear oneself speak, let alone anyone else. The telephone itself was an almost impossible medium for two-way communication. The noise level measured before remedial action was at 116 phons.

Treatment: First, conveyor belt was enclosed in a tunnel-like cover, except for a few feet at each end. Cover, mounted on cork surround detached from gearing and belt mechanisms, was made up on solid wood battens. Heavy oak planking was screwed on outside face. Inside was lined with perforated metal sheeting. Between the two linings and framework of cover, long fibre glass silk was packed. Thin cellophane layer was inserted as final inner backing to the perforated metal to prevent foreign matter from contaminating the food. Noise level was reduced to about 93 phons—a

(*Continued on page* 404.)

SILENCE IS GOLDEN

The Aetna Life Insurance Co., Hartford, Conn., sound-conditioned their premises and found they had

1. Increased general efficiency by 8.8 per cent.
2. Reduced typists' errors by 29 per cent.
3. Reduced machine operators' errors by 52 per cent.
4. Reduced employee turnover by 47 per cent.
5. Decreased absences by 37.5 per cent.
6. Reduced salary costs because fewer employees were required to get through the work.

Security for Employees

A Friendly Society is the "Safest" Works Club

National Insurance benefits cannot prevent the family of a man who falls sick from suffering some hardship. Hence the popularity of shop collections and works clubs of various sorts. Our contributor describes a way in which managements can implement efficiently and safely the wish of their workpeople for a security scheme.

By JOHN LAWES

REGISTRATION as a friendly society under the Friendly Societies Acts, 1896 to 1948, is the safest way of operating a works club, the object of which is to pay benefits to its members as a return for a regular contribution. These friendly societies can be operated by the workpeople themselves, with assistance from management but without outside aid. It is not essential to register such a works club as a friendly society unless it falls under the Shops Clubs Act, 1902. This Act provides that it shall be an offence to require a "workman" as a condition of his employment, to join a "shop club," unless the club is both registered as a friendly society and certified by the Registrar of Friendly Societies under the Act. A "shop club" is defined as a club to provide benefits to workmen in connection with a workshop or factory. It will be appreciated that the main feature of a shop club is that membership of it is compulsory and a condition of employment.

Registration as a friendly society gives real advantages:

(a) A registered friendly society can hold land and other property in the names of its trustees and the property passes to succeeding trustees without assignment or transfer;
(b) It can bring and defend actions in the name of its trustee;
(c) Summary criminal procedure may be employed for the protection of its funds;
(d) If an officer of the society dies or becomes bankrupt, the society has priority in the distribution of his assets;
(e) Such a society is entitled to certain stamp duty relief;
(f) Disputes can be legally settled according to the society's rules;
(g) Members over 16 may nominate a person to whom sums not over £100 may be paid on their death without their having to make a will;
(h) If a member dies intestate and without making a nomination, the society may distribute up to £100 without letters of administration being taken out.

An unregistered works club does not enjoy these advantages. It is an association made up of its individual contributors, and its property is normally vested in all its members. Actions for and against the society must therefore be "representative" actions, as in the case of an ordinary members' club. For the employer, however, the principal advantage of the registered friendly society lies in the control which the Registrar exercises over such societies. The possibility of embezzlement of funds is lessened by virtue of this control and the provisions which must be incorporated in the rules.

The object of most works clubs is the provision of relief or maintenance for members or their families, and this is one of the objects of a friendly society under the Acts. The benefits are provided by regular contributions from the members. These societies will accumulate and invest the member's contributions, paying benefits out of the funds. In drawing up the rules of such a society the rate of members' contributions, the benefits to be payable, and the amount of such benefits must be specified. The relationship between the amount of contribution and benefit will vary according to individual circumstances and the membership of the society. Help in deciding these matters will be obtained by studying the works

attendance registers, and from the experience of other similar societies.

When the decision to establish a society has been taken, application should be made to the Registrar of Friendly Societies for a copy of a booklet, *Rules for a Friendly Society*.

Where a society is being established by a company on behalf of its employees it may be found advisable to provide that certain of the officers, for example the treasurer, shall be company appointees. Care must always be taken to ensure that the rules contain power for their alteration, but here again, some check by the company may be deemed advisable. The rules constitute a contract between the members and the society; an amendment or alteration made in accordance with the rules binds all the members.

When the rules have been drafted, preferably by or with the assistance of the employees who will constitute the membership, they should be submitted to the employees for comments to ensure that the expected support will be forthcoming. Application to register the society should then be made. This application must be signed by seven members and the secretary (who need not be a member), and sent to the Central Office of the Registry in London. Two printed copies of the rules and a list setting out the names of the secretary and every trustee of the society must accompany the application. When the Registrar acknowledges that the rules have been registered, the society becomes a registered friendly society.

Rules and Benefits

As has been indicated, the content of the rules will vary enormously according to the particular circumstances. Even the benefits which the society will pay may vary from sickness benefit to educational grants. In drafting the initial rules it should, however, be remembered that alteration presents no difficulties and that it is therefore wise to limit the scope of the society until it has had an opportunity to become established. The main concern of most employees is with the welfare of their families if they should fall sick. It is, therefore, usually best to have as the object of a newly formed society the payment of sickness benefit to members during absence. A normal proviso is that benefit shall not be payable for the first seven days' absence.

CIVIL DEFENCE

How One Firm Launched a Civil Defence Scheme

This is the story of how one of the country's biggest aeroplane manufacturers recruited and is training its Civil Defence personnel. An appeal from top management, backed up by a poster campaign and a note in the pay packet, quickly brought in the required recruits, whom efficient training methods have welded into an organisation which is

Brigadier Manley James, V.C., works defence officer.

"Ship Shape and Bristol Fashion"

SIX months after inaugurating its recruiting scheme for Civil Defence, the Bristol Aeroplane Co. Ltd. was well within sight if its initial enrolment target. Now employees are under training not only at the parent factory, but also at company premises elsewhere.

Preliminary plans for the organisation were ready even before publication of the Government's first *Civil Defence Industrial Bulletin*—advising industrial concerns on forming Civil Defence units—and the company's recruiting campaign was launched on June 14, 1951, the date of issue of the Government booklet.

The foundation stone of "Bristol's" Civil Defence was laid in February last year when, several months before the appeal for volunteers was made, Brigadier Manley James, V.C., was appointed works defence officer.

In building up the organisation, Brigadier James's first work was to locate those employees who had received post-war training in Civil Defence. Enquiries revealed six men who had had some training and a number who were immediately keen to undertake it. They were sent on full-time instructor courses run by local authorities and the Home Office, while Brigadier James himself attended a course at the Civil Defence Staff College. Simultaneously, also in co-operation with local authorities and the Home Office, a method of initial training within the company was worked out. Lecture rooms, fire huts and gas chambers were prepared; elementary training equipment, such as respirators and stirrup pumps, was obtained, and plans were made for recruiting volunteers. It was not until instructors were qualified and the necessary equipment procured that the company was ready to launch the recruiting campaign.

Employees received their first intimation when the joint assistant managing director called a meeting of a cross-section of the company personnel to announce the campaign and ask for wholehearted co-operation. Then every member of the company was addressed in a series of meetings spread over a fortnight; this personal approach was backed by a series of posters. Deliberate mystification—and interest—was aroused by the first of these in the form of a "teaser" poster, which

displayed a shield only, bearing the letters "C.D." As a result, later editions, with the additional inscription "Preparedness now . . . Can Save Our Way of Life . . . Join Now . . . There's a Job Awaiting You in 'Bristol' Civil Defence," attracted a great deal of notice.

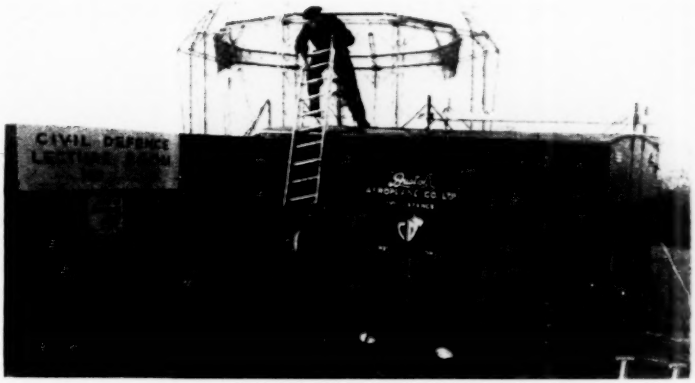
Full details of the appeal materialised three weeks later when every employee found a note from the managing director and an application form in his pay packet. Special blue and yellow striped Civil Defence post boxes for returning these and other C.D. communications were placed at all entrances to the works.

Unpretentious, but symbolic, the shield which awakened so much curiosity when it appeared on the first poster was soon recognised by every employee as the "trade-mark" of "Bristol" Civil Defence, and is stamped on application forms and other C.D. stationery and much of the equipment in addition to the posters themselves. It has now been adopted as the "Bristol" C.D. membership badge—in the form of a lapel button for men and a mounted bar brooch for women.

Response to the appeal was immediate. Applications poured in, and within a fortnight a large number of employees had been enrolled. Since then the figure has increased steadily.

Having received chits allotting them classes and informing them where and when to report, volunteers started their training in August,

Civil Defence enrolment forms with a note from the managing director were distributed in wage envelopes. Note the shield symbol, "trade-mark" of Bristol Aeroplane C.D.



Outside a lecture room, Civil Defence volunteers unload equipment from "Bristol's" rescue trailer.

a week after the works holiday. Classes are held out of working hours, men and women receiving 3s. and 2s. an hour respectively. Each volunteer attends for two hours' training one night a week.

Training, for which there are now twenty qualified instructors, is divided into three categories. The first 22 hours are spent in basic general training, followed by up to 60 hours' instruction, according to the section, in individual subjects, including rescue, first aid and ambulance, wardens, headquarters staff and welfare. Courses are comprehensive and in classes now being held—numbering over 30 a week—such diverse subjects as map reading and damage control are studied. A special shortened basic general course for senior executives is also now running.

Section instruction is succeeded by 60 hours' team work training in the different categories. Crews of eight, for instance, will be trained to man the company's rescue vehicles, of which one is a trailer. Each is equipped with over a hundred different items, ranging from remote breathing apparatus, wheelbarrow and megaphone, to ladders, insulating gloves, saws, shovels and chisels. In an emergency the vehicles would be placed at dispersal points, ready for instructions from central control to proceed to any incident.

Procuring these vehicles and other equipment for training is an important feature of Civil Defence organisation. The Government will provide respirators, uniforms and steel helmets, but the company is responsible for equipping its central control headquarters and for incendiary huts, gas testing chambers, and a number of special articles for training in protection against modern weapons, especially those of atomic warfare. Some of the instruments, such as a pocket or individual Dosimeter for measuring gamma rays, are entirely novel, even to those with wartime experience in Civil Defence. "Bristol" are also investigating the possibilities of extending and strengthening their air raid shelter system.

Apart from the chief training officer, a very small secretarial staff, and two storemen, the only full-time member of the organisation is Brigadier Manley James, formerly Director of Ground Defence at the Air Ministry. Co-operating with him is Lieutentant-General Sir Charles Allfrey, K.B.E., C.B., D.S.O., M.C., who acts informally as the board's adviser on general defence questions.

Brigadier James reports that the efficiency and keenness of men and women under training is both satisfactory and encouraging. This, however, is only a beginning. He hopes eventually to double the present complement of those in "Bristol" Civil Defence—thus forming an organisation with its purpose expressed by one of the campaign posters "A Show of Strength Now . . . Can Prevent War" or, in the words of one of its members, Mr. A. G. Fletcher, "We in the Corps are gaining a great deal of useful knowledge 'just in case,' and are making many friends. For me, indeed, my class night is club night."

New Vacancies Order "Persuades"

THE Notification of Vacancies Order, which became operative on February 25, aims to "persuade," not to direct, workers into essential industries. Workers covered by this Order are under no obligation to take the jobs offered, and if they refuse will be offered the kind of work they require.

The employer, however, is under an obligation to notify vacancies to an employment exchange or scheduled employment agency (i.e., trade union, professional organisation, or similar body, authorised by the Ministry of Labour). Any job advertisement must advise the worker to go to an employment exchange or scheduled agency, and all engagements must be made through them.

Certain employments and certain classes of workers are excepted from the Order. *Excepted employments*—Agricultural, coalmining, dock work (registered); merchant shipping; sea fishing; part-time employment; casual work not for the employer's trade or business; unpaid employment; police service; fire service; employment in a managerial, professional, administrative or executive capacity.

Managers Excepted

"Managerial capacity" does not necessarily mean every job which carries the title of "manager," but implies salaried employment in charge of a department, works or office. This may include superintendents, general and head foremen, but not ordinary foremen, chargehands, pieceworkers or others paid by the hour.

Part-time employment within the meaning of the Order, applies to not more than 30 hours a week with one employer. If a part-time worker is offered work by a second employer which will bring his aggregate to more than 30 hours a week, the second employer must engage the worker through an employment exchange.

Exemption of "professional, administrative and executive personnel" applies to accountants, architects, journalists, doctors, nurses, secretaries of clubs, companies or institutions, surveyors, clerks of works, and a number of similar non-manual occupations, but not to clerks and typists.

Excepted workers—Those under 18; men of 65 and over and women of 60 and over; women with children of their own under 15 living with them; registered blind persons; mentally defective; aliens subject to employment restrictions.

Individual exceptions may be granted by the Ministry of Labour in special circumstances, e.g., if the employment exchange cannot find suitable work quickly enough.

Men leaving the Forces with reinstatement rights can be re-engaged by employers without reference to an employment exchange. A worker whose employment has been interrupted for not more than 14 days can also be taken on again direct by the employer. A worker who has lost his job through sickness may be re-engaged as soon as he is fit. Similarly, where employment has stopped through a trade dispute the employer may freely re-engage his men as soon as work is resumed. Disabled persons (other than the blind) are generally covered by the Order, but exemption may be given in individual cases. Posts abroad are included if the engagement is made in this country.

If an employer fails to observe the procedure specified in the Order, he is liable to prosecution.

Pay Rises—Record Year

INCREASES in wage rates during 1951 averaged about 10½ per cent, while the level of retail prices rose by about 12 per cent. Both the number of workers (nearly 12,250,000) who received increases and the total amount awarded were the largest recorded in any year. The percentage increase compares with 4 per cent in 1950, 1½ to 2 per cent in 1949, and 4 per cent in 1948. Aggregate weekly increase amounted to over £6,500,000.

No Safety Colour Code

ROYAL SOCIETY for the Prevention of Accidents announce that after an extensive enquiry on behalf of the British Standards Institution, it has been decided to abandon the idea of establishing a safety colour code.

Examination of the problem showed that distinction must be made between a *safety* colour code and an *identification* colour code, and this proved impracticable. It was also felt that the only satisfactory method of ensuring safety is to eliminate the hazards, and a colour code might encourage their identification, instead of their removal.

Increased use of colour in factory decoration also detracted from the effectiveness of a colour code, while there was evidence that once a code had been put into effect its significance had been quickly forgotten.

THE welfare of those employed in industry was very near the heart of King George VI. In 1919, as Prince Albert, he became President of the Industrial Welfare Society. His Duke of York's Camp encouraged apprentices and public schoolboys to get to know each other in the happiest circumstances. After his accession to the throne, he became a most active Patron of the I.W.S. He was always concerned that the "little man" in industry should live the good life. Small wonder that so many felt they had lost a friend on that sad February day.

Later Retirement

LAST month the Chancellor of the Exchequer advised the staff side of the Civil Service National Whitley Council that 60 would no longer be regarded as the normal but the minimum age for retirement. In future, retirements would take place between 60 and 65 at the wish of departments. Efficiency tests would be applied to Civil Servants as they neared the age of 60, and at regular intervals thereafter if they remained in employment after that age. No stigma would be attached to those who failed to pass these tests, nor would there be any compulsion for an employee to remain after 60.

The staff side of the Whitley Council, while recognising that later retirement may be necessary because of the changing age distribution of the population, think that this is not the time to introduce it when extensive cuts are being made in staff. Nor ought it to be introduced without some measures to counteract the adverse effects on the flow of promotions. The staff side has suggested that those who remain after 60 should continue in a lower grade, but the Chancellor rejected this proposal on the grounds that it would introduce rigidity into retirement arrangements.

Compensation for Loss of Job

A PRIVATE MEMBER'S BILL, which has the support of the National Federation of Professional Workers, aims to protect employees aged 30 and over with long service—5 years or over. The amount of compensation proposed is the equivalent of one-twelfth of the total remuneration paid during the period of employment. In the event of loss of employment arising through bankruptcy, etc., of the employer, compensation payable would rank with priority in wages and salaries payable under existing law. Compensation would not be payable in the event of dismissal for misconduct, voluntary termination by the employee, or his incapacity, retirement or death.

The Bill does not apply to established Civil Servants, members of the

Mr. H. Roy Leach, chairman of Gandy Ltd., of Wallasey, Cheshire, presents cheques to Mr. J. Rowlands and Mr. E. Jones, who have each completed 50 years' service in the company's leather belting department.

forces, the police, people in permanent service with local or public authorities, members of the employer's own family living with him, outworkers, casual workers, masters, officers or seamen of sea-going ships, or others for whom statutory provision is already made for loss of employment other than national insurance.

Juster Jute Wages Plan

PLANS for a new wages structure for the industry, based on a systematic evaluation of every job, is being considered by the Association of Jute Spinners and Manufacturers and the textile trade unions. More than 17,000 workers employed in Dundee and district will be affected.

The need for a new wages structure was emphasised in the working party report published in 1948. It is expected that the new system will remove anomalies which have grown up over generations, but it will be several years before the change is completed.

U.K. Productivity Body?

LAST month's issue of *Labour* reports a T.U.C. recommendation that the Anglo-American Council on Productivity should be succeeded by an all-British body to carry on the work of giving impetus to productivity.

So far fifty-seven teams have visited U.S.A. and about ten more are due to go in the first half of this year. To date, forty-eight reports, with a combined circulation of nearly half-a-million copies, have been issued. Some 800 individuals from the managerial, technical and operatives' sections of British industry have taken part in these visits.

The T.U.C. states that there is much to be done in making practical use of many modern production methods which will lead to higher output. The task of seeing that everybody everywhere in this country works without waste of time, energy and skill should be given priority by unions and employers' organisations, in the board room, the manager's office and on the shop floor.

Youth Holiday Scheme

REQUESTS from firms after their successful 1949 holiday camp in France have encouraged the Industrial Welfare Society to arrange another camp for 1952, at Dinard, Brittany. Cost, including return fare, is £13 5s. 6d. for 8 days or £18 5s. for 15 days, subject to current fluctuations. Camping accommodation is available for 200 people of both sexes between the ages of 17 and 25.

All places will be allocated not later than March 31, so that early application should be made to: I.W.S. Youth Holiday Scheme, c/o Hotel-Plan Ltd., 245 Regent Street, Oxford Circus, London, W.1.

Industrial Health Services

THE Medical Inspectorate should form a separate branch of the Ministry of Labour under a chief Medical Inspector of Factories, according to a memorandum of the Institution of Professional Civil Servants reported in *The Lancet*. It is claimed that it follows logically that the accident prevention branch of the Factory Inspectorate should also be placed under the control of the Chief Medical Inspector.

An alternative suggestion is that factory medical services be transferred to the Ministry of Health as a step in the much-needed co-ordination of all health services. In any case, the Medical Inspectorate, say the Institution, should be strengthened by adequate medical and lay staff by making them part-time physicians in charge of departments of occupational medicine in hospitals; and by providing increased facilities for research and investigation.

WAGES NEWS

BUILDERS—An increase of 1½d. per hour has been granted to building workers by the National Joint Council for the industry. This is additional to the 1½d. per hour cost-of-living bonus reported in last month's issue.

CIVIL SERVANTS—The Treasury has decided that in view of recent increases to Civil Servants earning less than £1,500, senior staff earning above this rate, but less than £2,000, will receive an increase of £100.

CO-OPERATIVE WORKERS—An application for an all-round increase of 10s. a week for men and women has been submitted to the National Wages Board of the Co-operative Union. More than 1,000 retail co-operative societies, with about 280,000 workers, are affected by the claim.

FIREMEN—The firemen's claim for equal pay with the police has been rejected by the arbitration board appointed by the Minister of Labour. They have been awarded an increase of 16s. 6d. making the starting rate 155s. a week, rising to 176s. in the ninth year of service, and 184s. after 15 years' service.

L.C.C. STAFFS—The London County Council have granted an all-round increase of 10 per cent in basic rates of all administrative, professional, technical and clerical staffs. It is estimated that the increase will cost about £483,000 a year.

SHOP WORKERS—The Union of Shop, Distributive and Allied Workers has put forward a claim for an increase of £1 per week for more than 1,000,000 shop workers. All classes of workers are included from shop managers to warehouse porters, and if the claim is met more than £50,000,000 will be added to the wages bill of the distributive trades.

TEST PILOTS—Salaries of chief civilian test pilots employed by the Ministry of Supply have been increased from £1,200 to £3,200 a year under an award by the Civil Service Arbitration Tribunal. Test pilots are to get £2,400, rising by £100 to £2,900; navigators, flight engineers and radio officers are all to get £1,300 rising by £50 to £1,550.

3,200,000 Man-Weeks Lost Through Industrial Accidents

IN a debate on industrial safety in the House last month, Mr. Barnett Janner, M.P. for Leicester North-West, drew attention to the serious loss of production and the personal suffering caused through industrial injury and disease. He stated that, according to the report of the Ministry of National Insurance, issued November, 1951, there were 3,000 payments of industrial death benefit in 1949, and about the same number in 1950. The report also states that claims for injury benefit have been made steadily at the rate of 15,000 to 16,000 a week. Thus, 800,000 industrial injuries a year were taking people away from their jobs.

The average period for incapacity is over four weeks, which meant that no fewer than 3,200,000 man-weeks per year were lost; i.e. the equivalent of between 60,000 and 70,000 men and women being absent from work for a whole year.

Mr. Janner stated that it had been estimated that this wastage could be reduced by 50 per cent by the national adoption of methods already tried successfully by some industrial undertakings. Steps already proved effective included enlightened management probably the greatest factor. He urged more safety training in universities and technical schools; the employment of trained safety officers and the extension of joint safety committees in industry; intensive internal inquiries at the place of work in the event of accident; more intensive inquiry by the Ministries concerned and other bodies into accident prevention; and a strengthening of the factory inspectorate. He urged the Minister to set up a Government-sponsored committee to investigate and report on the whole situation.

Sir Peter Bennett, Parliamentary Secretary to the Ministry of Labour, stated in reply that he fully appreciated the gravity of the matters raised, of which he himself had had considerable experience. He maintained, however, that the prevention of industrial accidents was primarily a matter for the employers and the employed, and while Government and other bodies could help, avoidance of accidents depended not upon statutory rules and regulations but upon educating employers, employees and safety men to be always on the alert. He agreed that more factory inspectors were needed, and reported that arrangements were being made for special lectures to be given by factory inspectors to universities and technical schools. The question of setting up a Government-sponsored committee had previously been discussed by the National Joint Advisory Council, and found impracticable, but he undertook to urge the Minister to bring the matter up for renewed consideration.

The Minister Said . . .

Answers to Questions in the House

Textiles' Unemployed

At the latest date for which figures were available, December 10, 1951, there were 7,379 males and 17,667 females registered as unemployed in the textile trades, and 6,294 males and 17,006 females in the clothing trades. The majority of these were temporarily stopped, and hoped to return to their previous employment. (*Minister of Labour*, January 29, 1952.)

Cleaner Catering

It was hoped to introduce legislation shortly to supplement the Food and Drugs Acts regarding the establishment of hygienic standards in the handling and preparation of food, washing up, etc., in all catering establishments. (*Minister of Food*, February 4.)

Spare-time Building

Every encouragement would be given to Scottish local authorities to grant licences to people in urgent need of housing who wished to build houses for themselves with their own spare-time labour or in self-help groups. (*Joint Under-Secretary of State for Scotland*, February 5.)

Productivity Centre

The Government were sympathetic to the idea of setting up a national centre to pool information and ideas on industrial productivity, or to any similar plan which would command the support of both sides of industry and offer good prospects of success. (*Chancellor of the Exchequer*, February 5.)

Essential Work

Information concerning the most important types of production had been given to all employment exchanges and would be kept under review so that their attention could be focused on filling essential vacancies. (*Minister of Labour*, February 5.)

Aircraft Apprentices

The exemption from call-up of skilled aircraft apprentices engaged upon production of aircraft for the rearmament programme was under review. (*Minister of Labour*, January 29.)

Personal Column

Mr. J. B. Mavor, director, Mavor and Coulson Ltd., Glasgow, has been elected president of the West of Scotland section, Institute of Industrial Supervisors. **Mr. T. P. Wylie,** of the same firm, is chairman, and **Mr. J. Murray,** of the Singer Manufacturing Co. Ltd., vice-chairman.

Mr. John Boyle has succeeded the late Mr. Pat Markham as welfare officer to the South Eastern Electricity Board and editor of the Board's magazine. Mr. Boyle has been assistant welfare officer and assistant editor since nationalisation of the industry on April 1, 1948.

Mr. R. Dean Roberts has been appointed director of personnel for the David Brown Companies. Formerly with the Ford organisation, Mr. Dean Roberts was personnel manager at the Dagenham plant, where he also acted as assistant to the manager of the Ford labour relations division.

Mr. R. Dean Roberts, new David Brown personnel director and former I.P.M. Council member.

A former chairman of the Staff Management Association, he was a member of the Institute of Personnel Management Council from 1945 to 1951, and served for two years on the Institute's executive. He has also lectured extensively on the various aspects of personnel management and human relations in industry.

Mr. Dean Roberts will co-ordinate the activities of personnel departments throughout the David Brown organisation, and will advise the directors on all questions of administration and policy relating to personnel.

Obituary

Mr. Pat Markham, T.D., welfare officer to the South Eastern Electricity Board and editor of the Board's magazine *Seaboard*, died on January 9, at the age of forty, in a Brighton hospital after some six months' illness. He joined the industry in May, 1947 as welfare officer to the former London and Home Counties Joint Electricity Authority and on nationalisation became welfare officer to the South Eastern Board.

They Turned the Canteen into a Banqueting Hall

By A CORRESPONDENT

Every management at some time or other has to face the problem of organising a special function—a luncheon for distinguished guests, a company anniversary celebration, and so on. Recently a well-known firm of caterers inaugurated a service which is designed to take the burden of such events from management's shoulders.

The canteen/banqueting hall at Hadfields Ltd., steelworks ready to receive the 300 distinguished guests. Ceiling and walls have been covered in, the floor carpeted. Yet the canteen was out-of-bounds to employees for only a matter of eight hours.

HIS ROYAL HIGHNESS the Duke of Gloucester went to Sheffield to open a new heavy forge at the steel works of Hadfields Ltd. He sat down to lunch with 300 other notable visitors in the works canteen, where 600 steel workers take their midday dinner every day and many hundreds more are served with meals at all hours of the day and night.

Not only was the canteen converted into a banqueting hall and the event completed without interruption of the workers' meals service; but also the dining-room was out of bounds to employees for only eight hours. While the Duke and his party were received in the works administrative block the main party attended a reception in what is normally a garage accommodating 100 cars. Here the transformation was even more marked, and included carpeting over the whole area. Buffet teas were served in the reception hall to the 300 visitors and to 500 workers.

To make a fitting scene for this party ceiling and walls were covered in. All food and equipment was brought from London, and two coachloads of catering staff travelled through the night.

Among other catering events organised by the banqueting division of Peter Merchant Ltd., who provide this unusual service, was the biggest luncheon ever given in Britain—to 5,300 guests at the opening of the Fawley oil refinery, Southampton. Here again the caterers decorated and furnished the ceremonial scene. The reception took place and the five-course luncheon was served in two marquees covering two acres and containing a mile-and-a-half of tables.

Four days were spent in cooking and preparing the food at Denham, 100 miles away, and twenty motor-coaches brought 600 waiters and waitresses from London. In 24 hours the tables were laid with £150,000 worth of equipment, including 25,000 glasses—many were broken as a gale shook the marquees—30,000 plates, and 60,000 pieces of cutlery and silver. There were £1,000 worth of flowers.

40,000 *Were Served*

One of the biggest private parties in the number of people served was that at the sports gala of the Ford Motor Co. Ltd., at Dagenham, where 40,000 people took refreshments. Then there was the centenary celebration luncheon to 400 guests at the Greenwich works of the Telegraph Construction and Maintenance Co. Ltd.; refreshments for 53,000 people who attended the public show of the Brabazon airliner; a cocktail party at Oxford to introduce new models of Morris Motors Ltd., and about four times a year luncheons are arranged for the Austin Motor Co. Ltd. Other events undertaken by the organisation range from sales convention banquets to children's parties. Among the advantages of this industrial banqueting service one of the chief is that it enables existing buildings in factory or office to be adapted, re-furnished, decorated and equipped for a particular occasion. The equipment is installed quickly and removed immediately so that no trace is left and the buildings can be used for normal purposes with little delay. This avoids the need for hiring halls and often saves a good deal of transport. A pool of suitable furniture and equipment is kept in stock.

"Industrial welfare does more than add to the comfort of industrial life—it adds to its competence, and . . . this is true of industrial feeding in a particular degree." **LORD WOOLTON.**

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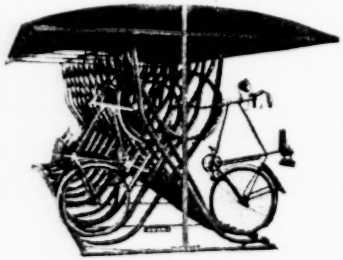

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Readers who wish to have more particulars of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph.
We are always glad to consider for publication descriptions—preferably accompanied by an illustration suitable for reproduction—of new products.

ELECTRICAL

Takes Up Slack

HERE is a tough rubber sheathed flexible made in the form of a close helix and having spring-like properties. It may be extended until very nearly straight, and on release will snap back into its closely coiled formation. It thus provides a solution to the problem, met by many users of portable electrical apparatus, of taking up the slack in the supply lead.

The flexible is of standard construction (it contains no spring), its extensibility and retractability being obtained by an additional manufacturing process. The extension ratio varies from approximately 4:1 to 6:1, according to conductor size and number of cores. The maximum length of 15 ft. will, therefore, give an extended length sufficient to meet most requirements.

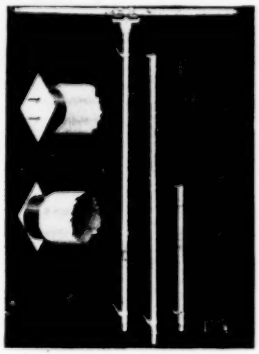
The picture shows how cable loops are eliminated as the flexible follows the traverse of an overhead travelling crane. **(PM 473.)**

Lamp Changer

CHANGING fluorescent lighting tubes fitted over machinery, conveyors, assembly lines and in drawing offices is awkward and often means that work must be interrupted. A new device—the No-Climb—enables tubes of the bi-pin type to be removed and replaced in their holders by an operator standing on the ground.

The gadget consists of a hollow tube with a head for gripping and rotating the lighting tube, and a moulded rubber handle at the other end. When this handle is manipulated it revolves rollers in the head, which turn the tube and release it from its contacts.

Extension tubes can be screwed into the handle for use on fittings up to 15 ft. above the ground. Plastic signals are fitted over the pins of the fluorescent tubes; these indicate that the tubes are fitted properly before the No-Climb device is withdrawn. **(PM 474.)**



HEATING

Forced Heater

STEAM or hot water can be used to operate the Universal forced convection heater. The units are encased in removable heat and sound insulated steel panels and can be supplied to stand on the floor or for mounting on walls or ceilings. The vertical or horizontal slats of the outlet louvres can be adjusted through 90 deg. and the units can be arranged to direct warmed air to any part of a room.

Air is drawn in through an inlet grille in the base of the cabinet; it is warmed by passing over a heating coil and is then forced out through the louvre by a low speed fan designed to give quiet running. A fresh air inlet is fitted on the opposite side of the cabinet to the room inlet and a damper is provided to regulate the amount admitted.

Capacities of the units vary between 40,500 and 16,000 B.Th.U.'s per hour according to the velocity of the air flow. **(PM 475.)**

MAINTENANCE

Removes Fur Coats

FUR, scale and rock deposits inside pipes and other parts of hot water systems can cause very considerable wastage of fuel. A new fluid, Defur, has been developed to dissolve all such deposits and thus allow them to be removed more quickly and easily than is possible with other methods. The fluid is a balanced combination of acids, inhibited so that it does not attack metal pipes. The only exceptions are zinc and aluminium and even these are safe if they are present in in the form of alloys.

Defur may be circulated in the water system by hand or power pumps or by gravity. The length of time required to destroy the deposits naturally depends on their thickness, age and

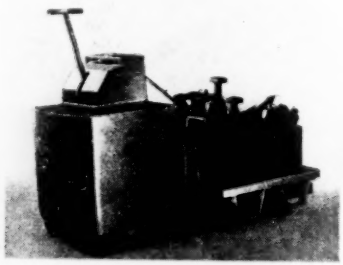
type. If a sample of scale is sent to the manufacturers, together with a description of the plant to be treated, they will recommend a suitable procedure and the quantity of fluid that will be required.

Types of plant that can be treated include: all makes of steam boilers, condensers, superheaters, evaporators, coolers and complete hot water installations in laundries, dairies, breweries and other premises. **(PM/476.)**

HANDLING

Stillage Truck

"TO lift and carry 1 ton in safety" was the aim of the manufacturers of this stillage truck. Steering, switchgear and brakes are controlled by the movement of a single "Tiller" arm which, under the "dead man's handle" system, returns to the vertical position

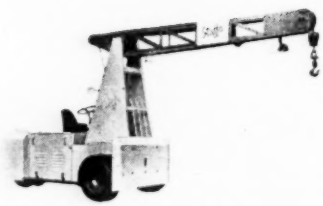


on release, applies the brakes and switches off the current. Finger-light control under load is ensured by the incorporation of eight heavy duty ballraces into the steering mechanism, and a reversing switch is provided. The platform is elevated by a few movements of the hydraulic pump lever, and operation of the release valve causes the platform to sink under its own weight.

Alternative platform lengths of 36 in., 42 in. and 48 in., all with alternative widths of 20 in. and 24 in., are available. Lowered platform height is 7½ in., raised 10½ in. Traction type battery permits a full day's operation with ample reserve; recharging costs about 2d. a day from the mains. Charging equipment can be supplied. **(PM/477.)**

Mobile Crane

THIS 2/3 ton mobile crane, recently put on the market, is intended particularly for general industrial use. It has been evolved as a result of its manufacturers' long experience in reconditioning American mobile cranes, which it resembles in some respects. Its mechanical design is simple, and it needs little maintenance.

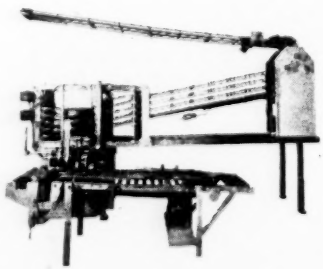


The hoisting mechanism comprises a fan-cooled worm reduction gear, on which is mounted the grooved drum conveying 65 ft. of ½ in. dia. construction wire rope, made from 100/110 tons/sq. in. plough steel. Power is transmitted by a propeller shaft and chain drive from a marine-type forward and reverse box, situated at the rear and coupled by a further propeller shaft to the engine. The latter is a Newage-Austin industrial-type o.h.v. petrol engine, 1,200 c.c. capacity, developing 15 b.h.p. at 1,800 r.p.m., and water cooled. Transmission is from a dry single plate clutch and synchromesh gearbox, providing four forward speeds and one reverse. Internal expanding brakes are fitted to the front driving wheels. The rear (steering) wheels can be turned through 150 deg., providing a small turning circle —within the crane chassis length. The jib is of lattice design and largely of riveted construction, with two deep groove rope sheaves. It is mounted on a welded support frame. **(PM/478.)**

Can Packing

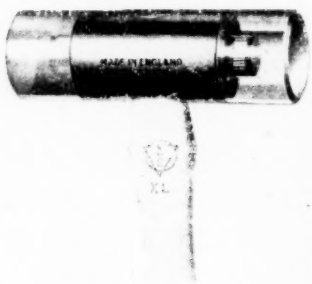
THIS machine is designed to receive cylindrical cans from a filling line or labelling machine and to pack them automatically into cartons. It consists of a double-lane packing unit, a booster conveyor for elevating the cans, and a final conveyor for carrying the filled cartons away to the carton gluing machine. Rate of operation is over 6,000 cartons per day, irrespective of the size of can being handled, provided this is within the normal range of sizes.

One girl operates the machine. Her task is to open cartons from the flat, to place them in position, and then to trip the mechanism which completes



the filling cycle. There is adequate provision for adjustment to handle different sizes of can and carton. **(PM/479.)**

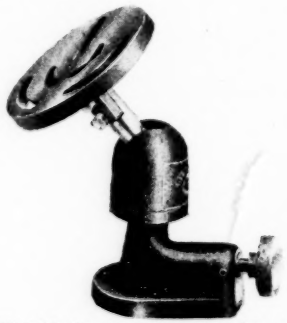
WORKSHOP TOOLS



Cellulose Hammer

TIPS of non-inflammable cellulose are fitted to this new hammer, which is intended for general machine shop use, panel beating and the fitting of gudgeon pins, bearings, gears, etc. The standard tips are cylindrical; for forming soft sheet metals, or for special applications, dome, cone, taper or wedge shape tips can be supplied. The body is solid steel, with knurled pegs machined at each end on to which the tips are driven. An oval hickory handle is fitted. Made in 4 oz., 8 oz., 12 oz., 1 lb., 1½ lb. and 2 lb. sizes. **(PM/480.)**

Work Holder



THE Hydraclamp is a movable work holder or jig designed to carry a wide variety of objects at any desired angle while allowing the operator complete freedom of both hands and accessibility to any part. The object is held rigidly in the desired position by hydraulic pressure of about 3,000 lb. per sq. in. This gives enough grip on the ball arm to withstand such

extra torque as might be applied in milling and fettling operations. Release of the pressure—which is instantaneous and to a degree which can be controlled at will, thus preventing the sudden fall of a heavy object—allows the workpiece to be moved to any new position in the top half of a sphere. The workpiece may also be rotated on its own axis. **(PM/481.)**

CANTEEN

Unit Ranges

ADVANTAGES of the unit-type cooking ranges illustrated here (in the kitchen of the Cliff Quay power station canteen) are as follows:

1. They enable kitchens to be well planned without waste of space.
2. Cleaning-down time after meals is reduced to a minimum.
3. Units can be added and replacements made as required.
4. Large and small units can be butted together.
5. Transport to, and handling on, site is facilitated.
6. Method of butting together cuts out the collecting of grease and harbouring of vermin between the units.

These ranges can be had in either wall or island patterns, brief specification of each unit being as follows: Dimensions, 3 ft. 5½ in. wide, 2 ft. 4½ in. deep, 2 ft. 10 in. high. Total load, 16.9 kw. Supply, AC 3 phase 4-wire or D.C. Oven cooking space, 24 in. cube, loading 6.4 kw. Boiling plates, one 24 in. × 16 in. (8 kw.), two 8 in. × 6 in. each (1.25 kw.).
(PM/482.)

VENTILATION

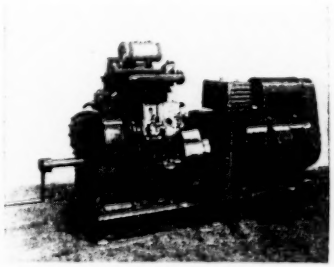
Clears the Air

THE Spenstead fume extractor can be used for removing a variety of locally generated fumes and improving working conditions on such operations as oxy-acetylene and electric welding. The unit incorporates an oiled glass filter element that can be replaced easily and cheaply when it is dirty.

The extractor fan is built in and is driven by a ⅓rd. h.p. mains-operated motor. As the complete unit weighs only 80 lb. it is easily moved around by the carrying handles fitted. A flexible metal hose which is connected to the top of the fan chamber enables the fumes to be collected near their source.
(PM/483.)

POWER UNITS

Versatile Diesel



THERE are many applications for which this two-cylinder industrial diesel engine is suitable. Power take off to machinery or electrical generation equipment can be direct, gear or belt drive, and the engine may be mounted as a stationary or portable unit.

Rated output is 30 b.h.p. at 1,500 r.p.m. and fuel consumption is said to be low: 0.42 lb. an hour per b.h.p. The engine is designed for long periods of running without cleaning, decarbonising, etc. All the parts are readily accessible for inspection. Cylinder head covers lift off to expose the valve mechanism and large doors in the engine housing allow the working parts of the crank chamber to be reached. In addition all the assemblies are constructed as units spigotted into the crankcase and these can be removed individually for more thorough inspection.

The twin cylinders are mounted in line and their total capacity is 3.05 litres. A decompression device makes hand-crank starting easy. Weight of the unit when dry is 1,070 lb. and it is suitable for operation in any climate.
(PM/484.)

SALVAGE

Paper Shredder

THE conversion of waste paper, old cartons, etc., into packing material enables substantial economies to be made. This machine does the job simply and efficiently. The waste is passed through it and emerges in the form of a fine, resilient "wool." A

skilled operator is not needed. Models can be supplied to produce any width of strip from 1 mm. or 1/16 in. upwards, and will also deal with cellulose film, crêpe papers, thin metal foils and a wide range of other materials.
(PM/485.)

HEALTH

New Barrier Creams

ANTI-DERMATITIS barrier creams made to new and improved formulæ and applicable to the light and heavy engineering industries were introduced to the Press last month by Innoxa. Different types of work demand different types of barrier cream, and in a series of newly published booklets the manufacturers recommend the appropriate grade of cream for a variety of jobs in sixteen industries and trades: Engineering, tar and pitch, mining, food processing, agriculture, rubber and plastics, medical and allied professions, chemical trades, woodworking, printing, paint manufacture, textiles, transport, building, leather manufacturing and hairdressing.
(PM/486.)

Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

BILLS

Loss of Employment (Compensation). Dated December 5, 1951. Provides for payment of compensation for loss of employment after long service. *H.M.S.O.* 4*d.* (See also page 394.)

National Health Service Bill. Dated February 1, 1952. Provides for the recovery of charges for drugs, medicines and certain appliances. *H.M.S.O.* 4*d.*

STATUTORY INSTRUMENTS, 1952

No. 18. The Keg and Drum Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1952. Dated January 4, 1952, made by Minister of Labour and National Service under Section 10, Wages Councils Act, 1945(c). *H.M.S.O.* 4*d.* (Revokes Orders K.D.(31) and K.D.(40) and fixes annual and other customary holidays and holiday remuneration payable. Operative from January 18, 1952.)

No. 67. The Aerated Waters Wages Council (Scotland) Wages Regulation (Amendment) Order, 1952. Dated January 11, 1952, made by the Minister of Labour and National Service under Section 10, Wages Councils Act, 1945(5). *H.M.S.O.* 2*d.* (Amends Order A.S.(31) by increasing statutory minimum remuneration payable. Operative from January 30, 1952.)

No. 72. The Boot and Floor Polish Wages Council (Great Britain) Wages Regulation (Holidays) Order, 1952. Dated January 15, 1952, made by the Minister of Labour and National Service under Section 10, Wages Councils Act, 1945(b). *H.M.S.O.* 6*d.* (Revokes the 1948 Holidays Order and sets out annual and other customary holidays and holiday remuneration payable. Operative from January 30, 1952.)

No. 79. The Rope, Twine and Net Wages Council (Great Britain) Wages Regulation Order, 1952. Dated January 16, 1952, made by the Minister of Labour and National Service under section 10, Wages Councils Act, 1945(d). *H.M.S.O.* 9*d.* (Amends the 1950 Order and the 1951 Amendment Order, and fixes new statutory minimum remuneration payable. Operative as from February 1, 1952.)

No. 136. The Notification of Vacancies Order, 1952. Dated January 29, 1952, made by the Minister of Labour and National Service under Regulation 58a, Defence (General) Regulations 1939, Supplies and Services (Transitional Powers) Act, 1945(a), Supplies and Services (Extended Purposes) Act, 1951(c), and the Supplies and Services (Continuance) Order 1951(d). *H.M.S.O.* 3*d.* (Requires employers engaging workers to do so through an Employment Exchange or scheduled employment agency. Certain classes of workers and types of employment are excepted. Operative from February 25, 1952.) (See also page 394.)

Draft. The Pneumoconiosis and Byssinosis Benefit Scheme, 1952. Draft laid before Parliament January 21, 1952, made by the Minister of National Insurance under the Pneumoconiosis and Byssinosis Benefit Act, 1951. *H.M.S.O.* 9*d.* (Provides payment out of the Industrial Injuries Fund to, or in respect of, people who were totally disabled or died as a result of these diseases, and who were not previously insured.)

Draft. The National Insurance (Industrial Injuries) (Colliery Workers Supplementary Scheme) Amendment Order, 1952. Laid before Parliament January 28, 1952, made by the Minister of National Insurance under Sub-section 8, Section 83, National Insurance (Industrial Injuries) Act, 1946(e). *H.M.S.O.* 4*d.* (Extends the Colliery Workers Supplementary Scheme to include checkweighers, pick-sharpeners, and similar workers, and certain men employed by the National Coal Board at central workshops.)

GENERAL

Dust in Steel Foundries. Second report of a committee appointed to consider methods of preventing the production or inhalation of dust, and the possibility of reducing the use of materials containing free silica in steel foundries. Issued by the Ministry of Labour and National Service, Factory Department, January, 1952. *H.M.S.O.* 3*s.* 6*d.*

Explosions in Oil Drums and Tanks. Report of experiments to determine risk of explosions when repairing drums containing kerosine lubricating oil and vegetable oil. Issued by the Ministry of Labour and National Service, Factory Department, August, 1951. Factory Form 276. *H.M.S.O.* 6*d.*

Painting Asbestos Cement. Building Research Digest No. 38. Issued by the Building Research Station, January, 1952. *H.M.S.O.* 3*d.*

Time Rates of Wages and Hours of Labour, October 1, 1951. Issued by the Ministry of Labour and National Service, January, 1952. *H.M.S.O.* 6*s.* 6*d.* Sixth annual edition, giving agreed minimum or standard time rates for the more important industries and occupations as operating at October, 1951.

Choice of Careers Series. No. 25, The Carpenter and Joiner. No. 28, Local Government. Issued by the Central Youth Employment Executive. *H.M.S.O.* 1*s.* 3*d.* each.

INDUSTRIAL COURT AWARDS

No. 2357. National Health Service. Reference for modification of terms and conditions relating to salaries of Medical Superintendents. Award: Salary scales for Medical Superintendents to be a minimum of £1,350 per year up to a maximum of £1,765, where duties are divided between clinical and administrative work salary shall be calculated on an agreed formula. (22/1/52.)

INDUSTRIAL DISPUTES TRIBUNAL AWARDS

No. 71. Rate of Payment for work Performed on Customary Holidays by Workers Employed at Certain Licensed Restaurants in London. Claim: That employees who work on customary holidays, and are given a day off in lieu, be paid for time worked at time-and-a-half. Award: Claim not established. (12/12/51.)

No. 72. Rate of Payment for Work Performed on Customary Holidays by Certain Workers Employed at a Particular Hotel and Restaurant in London. Claim: That employees who work on customary holidays, and are given a day off in lieu, be paid for time worked at time-and-a-half. Award: Claim not established. (12/12/51.)

No. 73. Rate of Payment for Work Performed on Customary Holidays by Certain Workers Employed at Particular Hotels in London. Claim: That employees who work on customary holidays, and are given a day off in lieu, be paid for time-and-a-half. Award: Claim not established. (12/12/51.)

No. 74. Rates of Wages in a Section of the Fellmongering Industry in England and Wales. Claim: Increase of 9*d.* per hour for timeworkers and equivalent increases for pieceworkers. Award: Increase of 2*d.* per hour for adult timeworkers, and 5 per cent for juveniles; 7 per cent increase on existing piecework rates. (13/12/51.)

No. 75. Rates of Wages of Certain Workers Employed on Case Making by an Electrical Firm at Woolwich. Claim: That terms of N.A.T. Award No. 1571, 1950, should apply to case makers. Award: In favour of workmen. (18/12/51.)

No. 76. Salary Scale of Certain Staff Employed at the Chief Office of the Refuge Assurance Co. Ltd. Claim: For improved salary scales. Award: Minimum salary scale for Grade 1 clerical staff to range from £2 15*s.* per week at 16 to £9 at 35 for males, and from £2 15*s.* at 16 to £5 at 25 for females. Existing rates of maintenance staff to be increased by 9*s.* 6*d.* and 10*s.* a week. Salary scales for other grades of clerical staff were referred back for negotiation. (18/12/51.)

No. 77. Rates of Wages and Conditions of Employment of Certain Workers Employed by a Firm of Surgical Appliance Manufacturers at Mitcham. Claim: For observance by employers of terms of specified agreement between the Surgical Instrument Manufacturers' Association and the National Union of Furniture Trade Operatives, dated January 26, 1950. Award: In favour of workmen. (19/12/51.)

No. 78. Terms and Conditions of Employment of Certain Workers Employed by a Firm of Manufacturers of Surgical Instruments and Medical and Surgical Equipment in London. Claim: That workers, other than skilled surgical instrument makers, be employed under the terms and conditions applicable to the engineering industry. Award: General claim not established. The question of terms and conditions of workers employed in the manufacture of X-ray equipment was referred back for negotiation. (19/12/51.)

No. 79. Wage Rate of Certain Workers Employed by a Company in Cornwall Engaged in the Production of China Clay. Claim: That company should pay electricians the increase granted to the electrical contracting industry, April 2, 1951. Award: In favour of workmen. (31/12/51.)

No. 80. Wage Rates of Certain Workers Employed by an Electrical Engineering Company at Rugby. Claim: For wage increase of 11*s.* a week to adult male workers in lamp factory in accordance with engineering agreement of November 28, 1950. Award: In favour of workmen who were receiving the maximum basic rate of 6*5s.* 1*d.* prior to the agreement concerned. (31/12/51.)

No. 81. Holidays in the Cotton Industry. Claim: For extension of paid holidays from 110 to 111 hours per year, and for increase of payment from 5 to 6¼ per cent of gross weekly earnings. Award: In favour of workmen. (31/12/51.)

No. 82. Remuneration of Engineers Employed on Job Contract Schemes by Ship Repairing Firms in the Port of London and at Tilbury. Claim: For application of engineering agreement of November 28, 1950, to men employed on a system of job contracts. Award: The Tribunal found that the "all in" skilled rate for engineers employed on job contracts was 138*s.* 10*d.* per week. (8/1/52.)

No. 83. Rates of Wages of Workers Employed in the Vehicle Building Industry in the United Kingdom. Claim: For wage increase of 6*d.* per hour. Award: Increase of 3*d.* per hour to adult male workers, with proportionate rate for women. (9/1/52.)

No. 84. Rates of Wages and Conditions of Employment of Certain Employees of a College at Cambridge. Claim: That rates of pay and conditions of employment of domestic and non-craft manual employees be related to those similar employees in the National Health Service. Award: Claim not established. (10/1/52.)

No. 85. Rates of Wages of Transport Workers Employed in the Pressed Brick Industry. Claim: For wage increase of 7*s.* a week. Award: In favour of workmen. (11/1/52.)

No. 86. Starting Rate of Machine Men Employed by an Engineering Firm at Fraserburgh. Claim: For maintenance of differential of 3*d.* per hour between starting rate for machine men and minimum rate for skilled workers. Award: Starting rate for machine men not to be more than 3·7/16*d.* below minimum rate for skilled men. (17/1/52.)

No. 87. Salary Scales of Clerical Staff Employed at the Head Office of a Friendly Society in Manchester. (Award No. 48). Claim: For improved salary scales. Award: Salary scales for workers above the basic grade to be as follows. Males—Grade 2, £8 15*s.* a week by annual increments of 5*s.* to £9 15*s.*; Grade 1, £10

a week by annual increments of 10s. to £11. Females—Higher Grade, £6 5s. a week by annual increments of 5s. to £7 5s. (15/1/52.)

No. 88. Rates of Wages of Women Workers in the Engineering Industry. Claim: Dispute over increase in wage rates which shall apply to women workers. Award: Increase of 10s. 1d. per week of 44 hours to women of 18 years and over, with proportionate increases to those under 18. (18/1/52.)

No. 89. Wage Rates of Two Workers Employed as Die-Fitters by a Firm of Electro-Ceramic Manufacturers in North Staffordshire. Claim: For payment of agreed minimum of £7 11s. 6d. per 44-hour week for die-fitters. Award: In favour of workmen. (21/1/52.)

No. 90. Remuneration of Domestic and Similar Grades of Staff of Hospitals and Allied Institutions situated in the Dartford District. Claim: That hospitals and allied institutions in Dartford be brought within the London area. Award: In favour of claim. (21/1/52.)

No. 91. Remuneration of Dental Technicians. Claim: For increased rates of pay for dental technicians and apprentices. Award: Minimum rates for technicians to be £9 2s. 6d. a week for Grade I and £7 12s. 6d. for Grade II; for apprentices, £1 10s a week for the first year rising to £3 17s. 6d. for the fifth year. (23/1/52.)

No. 92. Remuneration of Certain Workers Employed by an Engineering Company at Barrow-in-Furness. Claim: That payment of a fixed percentage bonus should have been made to gaugers and setters during a specified period. Award: In favour of workmen. (24/1/52.)

THE MONTH'S DATES

Birmingham Technical College
March
5 "Organising for Optimum Human Performance." Rt. Hon. Lord Burghley, K.C.M.G. 7 p.m.

Bradford Industrial Safety and Welfare Association
12 "Industrial Medicine." Dr. J. W. Silverside. Midland Hotel, Bradford. 6.30 p.m.

British Institute of Management
11 "Development of the Personnel Function of Management in a Small Firm." Brooke Crutchley. London. 5.30 p.m.

Carlisle and District Management Association
11 "Management Education in Scotland." A. Letham.

Industrial Welfare Society
3 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
4 Small Firms' Day Conference. 48 Bryanston Square, London, W.1.
6 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
6 "Canteens." Newcastle.
10 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
10-12 Industrial Law Tutorial. Manchester.
10-31 "Training for Foremanship." W. H. Bower, B.Com. 48 Bryanston Square, London, W.1. 6 p.m. (Course.)
11 "Lifting and Handling." Sheffield.
12 "Lifting and Handling." Bradford.
12 Advisory Meeting. Stoke.
13 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
13 "Supervisor Training." Bristol.
14 Residential Conference—Office. Llandudno.
17 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
17-21 "Senior Executives' Course—Human Relationships in Industry." 48 Bryanston Square, London, W.1.
19 "Canteens." Leicester.
20 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
24 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
25 Small Firms' Day Conference. Manchester.
26 Advisory Meeting. Glasgow.
27 Advisory Meeting. Edinburgh.
27 Discussion Group for foremen, chargehands and management trainees. 48 Bryanston Square, London, W.1. 6 p.m.
27 Course for Supervisors. 48 Bryanston Square, London, W.1.
28-31 Residential Conference — Chargehands. Nottingham.

Institute of Economic Engineering
14 "The Measurement of Production Efficiency." C. E. Sutton. Cowdray Hall, London, W.1. 7 p.m.

Institute of Industrial Administration
7 Lecture. Raymond Parmenter. Cardiff. 7.15 p.m.
12 "What Industry Expects of the Trained Manager." M. H. Taylor. Leicester. 7 p.m.
13 "Speed and Effort Rating." Film show. E. H. Sexton. Norwich. 7.30 p.m.
13 "Men and Machines." Prof. A. F. Burstall. Middlesbrough. 7.30 p.m.
14 "Higher Control." Case history. H. W. Harwood. Leeds.
17 "Large-scale Catering (Industrial canteens)." H. H. Holland. Enfield. 7.15 p.m.
19 A Case Study. Assessor: R. T. Mattinson. Leicester. 7 p.m.
19 "The Supervisor's Rôle in Industry." Sir Antony Bowlby. Warrington. 7 p.m. (Jointly with I.P.M.)
20 Lecture. Sir Robert Hyde. Southampton. 7.30 p.m.

Institute of Industrial Supervisors
4 "The Foreman's View of Management and Management's View of the Foreman." Star and Garter Royal Hotel, Victoria Street, Wolverhampton. 7.30 p.m.
6 "How We Acquire Skill." F. Lloyd. King's Head Hotel, Newport. 7 p.m.
6 "The Foreman and Good Housekeeping." W. J. Deverall. Crossfields Ltd., Warrington. 7 p.m.
12 "Developments in Work Study." G. P. Wade, B.Sc. College of Technology, Suffolk Street, Birmingham. 7.30 p.m.
13 "American Foremanship." W. J. Izzard. Great Northern Hotel, Leeds. 7.30 p.m.
19 "Organisation for Production." W. A. Melhuish. The Unity Hall, Greek Street, Stockport. 8 p.m.
20 "Motion Study on the Shop Floor." N. G. Reece. Grand Hotel, Bristol. 7.30 p.m.
20 "Foremen's Forum." The Polytechnic, Woolwich, London, S.E. 6.30 p.m.
25 "American Foremanship Report." Dr. H. L. Hazelgrave, Wh.Sc., M.A. The College of Technology, The Newarke, Leicester. 7.30 p.m.

Institute of Personnel Management
1 "Some Thoughts Upon American Management." J. C. W. Stead. Sheffield. 7.30 p.m. (Jointly with Institution of Works Managers.)
4 "Adult Education and Personnel Management." Prof. R. D. Waller. Bolton.
6 Discussion Meeting for Special Groups. London.
9-11 "Industrial Relations." Porthcawl.
14-16 Scottish Regional Conference. Peebles.
17 "Discipline in the Works." J. Maslin. Leicester. 6.30 p.m.
19 "Making the Most Economical Use of Our Manpower." Miss E. Pepperell. 6.30 p.m. London.
21-23 Midlands Regional Conference.
21-23 Joint Conference with Personnel Management Advisory Service of the Ministry of Labour. Grange-over-Sands.

Institute of Industrial Technicians
20 "Management and the March of Time." S. J. Noel-Brown. Engineers' Club, Manchester. 7.15 p.m.

Institution of Heating and Ventilating Engineers
4 "The Impact of Environmental Warmth upon Personnel in Industry." F. R. White. Institute of Mining and Mechanical Engineers, Newcastle-upon-Tyne. 6.30 p.m.

Institution of Production Engineers
5 "Report of British Valve Productivity Team." I. G. Hopkinson. George Hotel, Huddersfield. 7.15 p.m.
11 "A Review of the Anglo-American Productivity Team Reports." A. G. Bradbury. James Watt Memorial Institute, Great Charles Street, Birmingham 3. 6.45 p.m.
12 "Employee Remuneration and Incentives." R. B. Simpson. Welbeck Hotel, Milton Street, Nottingham. 7.15 p.m.
14 "Selection and Training of Foremen." W. H. R. Dalley. North Staffs Technical College, Cauldon Place, Stoke-on-Trent. 7 p.m.
19 "A Broader Conception of Productivity and its Measurement." F. G. S. English. James Watt Memorial Institute, Great Charles Street, Birmingham 3. 7 p.m.

Institution of Works Managers
6 "Incentives in Industry." Lewis C. Ord. Vane Arms Hotel, Stockton. 7.30 p.m.
11 "The Initial Industrial Training of a Young Graduate." A. Fairbairn, Starkie House, Starkie Street, Preston. 7 p.m.
11 "Some Aspects of Management." E. W. Wade. Grand Hotel, Birmingham. 7 p.m.
13 "Some Aspects of Management." H. O. Weare. The Plough, Kenton, Middlesex. 12.30 p.m.
13 "Merit Rating and Job Evaluation." J. C. W. Stead. Royal Hotel, Bristol. 7.15 p.m.
17 "British and American Industrial Relations." T. G. Belcher. Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, C.2. 7.15 p.m.

National Institute of Industrial Psychology
3-7 Course in Selection Methods. London.
4-5 Course for Supervisors (Production). London.
11 General Conference. Birmingham.
12 General Conference. Liverpool.
13 General Conference. Manchester.
14 General Conference. Leeds.
17-21 Course in Selection Methods. London.
28-31 Annual Residential Conference. Buxton.

Urchfont Manor
10-14 "On the Staff." (Course for office staffs.)

Y.M.C.A. College for Adults
4-18 Course for young people from industry and commerce.

Human Relations Courses

NORTH-WESTERN Polytechnic, Prince of Wales Road, London, N.W.1, announce further courses on the human aspect of management beginning March 10, April 28 and June 9. These full-time courses last four weeks and are suitable for experienced executives. The course beginning March 10 will deal with human relations in the office.

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Owing to structural difficulties, structure-borne noise from this conveyor could not be reduced by mounting it on suitably designed resilient springs or insulating media. Had this been possible, still further noise reduction would have been obtained, not so much within this room itself but in other parts of the building to which the noise was being conveyed through the continuous structure in the form of vibration.

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MANAGEMENT BOOKSHELF

More Output? It's Up To Management

Greater Production. Walter Scott. The Law Book Co. of Australasia Pty. Ltd. (London: Sweet and Maxwell Ltd.) £3 10s.

HERE is a comprehensive and very topical book from Australia. Its theme—only more production will put more value into the pound. How to get more production? Mr. Scott, a management consultant, believes that production in his own country would increase greatly if many more managements did their own jobs better. He believes that if management becomes "shackled and frustrated and lost" in a maze of Government controls, it will only have itself to blame. "Governments will and can only play that part in leadership in which management defaults." For, writes Mr. Scott, the responsibility for progress rests upon management.

He admits that there is some justification for those who complain about lack of the will to work, absenteeism and some misuse by the trade unions of their recently-won power. But he still maintains that it is up to management to find the solutions to these problems. "In a democracy like ours, capitalism cannot survive without the support of labour. We can no longer count on demanding this support. We have to find ways and means of earning it."

Much of the book is devoted to examining such ways and means. Industrial relations, the influence of the trade unions, tackling strikes and absenteeism, methods engineering, incentives and morale are all treated in great detail, elaborated with a wealth of case histories. Though Australia's labour difficulties are not identical with ours, much of what Mr. Scott has to say is of general application. His book, necessarily monumental in size but very readable, might well become a management "classic."

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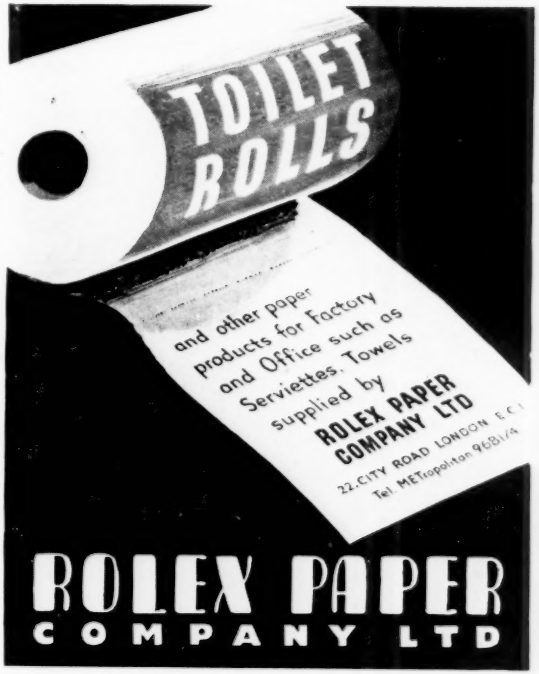
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